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M E D I C A L
C O M M E N T A R I E S

FOR THE YEAR M.DCC.XC.

EXHIBITING A CONCISE VIEW OF THE
LATEST AND MOST IMPORTANT DISCOVERIES
IN MEDICINE AND MEDICAL PHILOSOPHY,

COLLECTED AND PUBLISHED BY
ANDREW DUNCAN, M.D.F.R.&A.S.ED.

PHYSICIAN TO HIS ROYAL HIGHNESS THE PRINCE OF WALES
FOR SCOTLAND,
PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH,
MEMBER OF THE ROYAL SOCIETIES OF MEDICINE
OF PARIS, COPENHAGEN, EDINBURGH, &c.
AND PROFESSOR OF THE INSTITUTIONS OF MEDICINE
IN THE UNIVERSITY OF EDINBURGH.

Neglecta reducit, sparsa colligit, utilia selegit, necessaria ostendit, sic utile.
Baglivius.

DECADE SECOND.

VOL. V.



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THIS VOLUME
OF
MEDICAL COMMENTARIES

Is respectfully inscribed

TO

DR RICHARD WARREN, F. R. S. & S. A.

PHYSICIAN to the KING,

And to the PRINCE OF WALES,

As a testimony of

Esteem for a Medical Practitioner

Who unites the character

Of a learned Physician

And elegant Scholar,

With that

Of an accomplished Gentleman ;

And as a mark of regard

from his most obedient Servant,

ANDREW DUNCAN.

—————*Vobis semper, Achivi,*
Profruit ingenium—————

OVIR.

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P R E F A C E.

IN presenting this Volume to the Public, we beg leave to return sincere thanks to those industrious and ingenious Correspondents to whom we have been indebted for the original observations contained in the second Section ; and we trust their labours will be received with grateful indulgence by the candid Reader, to whom they cannot fail to convey useful information. The same motives which have drawn forth former communications, will, we flatter ourselves, secure to us future assistance. And we have only to observe, that in consequence of the death of our former publisher Mr Elliot, whose spirited conduct in trade did honour to his

A 4 profession,

profession, and whose death we sincerely regret, communications intended for this Work, may be addressed to the care of Messrs Robinsons, bookfellers, London, by those who have not an opportunity of transmitting them directly to Dr Duncan at Edinburgh.

EDINBURGH, }
Dec. 1. 1790. }

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M E D I C A L
COMMENTARIES,

FOR THE YEAR 1790.

VOL. V. DECADE II.

S E C T. I.

Account of New Books.

I.

Dissertatio Medica Descriptionem et Casus aliquot Osteomalaciæ sistens. Auctore Olao Jacobo Ekman, Præside Joh. Gust. Acrell. 4to, Upsaliæ.

THE treatise before us is introduced with some general observations on the nature and properties of bones in the healthful state, as possessing greater solidity and strength than other parts, and thus preserving the length and form of the animal machine. There are, however, Dr Ekman observes, melancholy instances,

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in which they do not acquire a sufficient degree of firmness in the womb itself; there are others, in which they have not a due degree of growth in the infant state; and lastly, there are cases, in which, after having acquired the proper strength of the adult state, they are so affected from internal causes, as to be either fractured from the slightest accident, or so softened as to be incapable of resisting the action of the muscles; in consequence of which, various deformities occur.

This disease, he observes, is described under various names by different medical writers. The term *Rachitis* has indeed been most frequently employed. But with some, the disease has obtained the names of *Atrophia*, *Osteosarcosis*, *Ossium fragilitas*, *mollitio*, *incurvatio*, *contorsio*, and the like. As affecting particular parts, it has been termed, *Gibbositas* or *Scoliasis*; and those labouring under it have been styled *Capitones*, *Valgi*, *Vari*, *Combernes*, &c. This affection of the bones has also, he observes, been sometimes considered as conjoined with certain chronic diseases, as *scrofula*, *scorbutus*, and *syphilis*, which were believed to affect the bones in consequence

consequence of a certain acrimony; or peculiar miasma.

In his inquiries on this subject, Dr Ekman thinks it most adviseable, to refer the whole to one genus, of which the proper and distinguishing characteristic is, a weaker, more fragile, or softer structure of the bones, from which they either acquire monstrous figures, in consequence of the ordinary actions of the muscles, or are broken by the slightest violence, or, in fine, are reduced to such a pulp, that all voluntary motion is lost. He employs the generic name of Osteomalacia, as none of the others in use sufficiently distinguish this disease from other affections of the solids. This genus may, he thinks, with propriety be distinguished into four species :

1. Osteomalacia congenita, vel Hereditaria.
2. Osteomalacia infantum, feu Rachitica.
3. Osteomalacia adultorum, vel Cachectica.
4. Osteomalacia partialis.

Of each of these species he next proceeds to make some observations, illustrating them by particular cases.

In treating of the *first* species, the Osteomalacia congenita, he observes, that an uncommon softness of the bones may not only occur from the very time of birth, but that it has even been known to be propagated through different generations, from parents to children. In proof of this, he relates the history of a family, residing at one of the iron mines in Sweden, who for three generations were known to be a race of dwarfs, with a peculiar softness and fragility of the bones, giving rise to monstrous distortions. The great-grandfather of this monstrous progeny, by name Nicolas Ekroth, was born in the end of the last century, and was so distorted in his figure as to be incapable of walking. But, even in this situation, he entered into marriage, and had by his wife four children.

1. Eric, born in 1702, who in the infant state shewed no signs of deformity. But having arrived at puberty, he lost all strength of his legs and arms; and being incapable of any work, he was supported by begging. He died in 1775.

2. Sophia, born in 1703. Of her, during the infant state, there are no certain accounts.

But,

But, when grown up, she was of a low and crooked stature, walked in the manner of a duck, and had her feet turned inwards.

3. Anna, of whom nothing certain is known, and who probably died early in life, or removed to some other part of the country.

4. Stephen, well known to all the neighbourhood as a dwarf, incapable of walking, and with remarkable curvatures both in his legs and arms. Notwithstanding this deformity, however, he married a healthy woman, by whom he had one son.

This son, named Nicolas Ekroth, who constitutes the second generation, was born in the year 1726. From the earliest period of his life, both his legs and arms were liable to be broken, even by the slightest injury; and, like his father and grandfather, he was miserably distorted, and was obliged to remain almost constantly in a sedentary state. He also was chiefly supported by begging, and died in the 56th year of his age. Through the whole course of his life, he was affected with flying pains in different parts of his body. But, notwithstanding these circumstances, he married a stout looking woman, by whom he had

two children ; which constitute the third generation from the elder Nicolas.

The first of these, Andrew Ekroth, was born in the year 1760. When he was scarce a month old, such was the softness of the bones of his legs and arms, that a curvature was the consequence even of the slightest touch ; and, almost every year during the infant state, he was three or four times subjected to a fracture of some bone. When he was grown up, his legs were incapable of supporting the weight of his body, although very light ; and by various and almost innumerable contortions and fractures, both of the inferior and superior extremities, he exhibited a most miserable spectacle. The articulations, however, were not affected with any disease. When he arrived at maturity, though he was not married, yet he was by no means void of the desire of propagating the species ; and perhaps he might have succeeded in obtaining a wife, had he not been accidentally drowned.

The second child of Nicolas Ekroth, named Anna, born in the year 1765, was alive in the year 1788, at which time she was seen by our author. Her mother informed him, that eight
days

days after her birth, when they were changing the linens of this infant, her arm was broken without any violence whatever; and during the whole period of infancy, upon the slightest accident, fractures occurred, not only in the legs and arms, but even in the thigh bones. These were accompanied with such distortions in the other bones, that at the age of fourteen she measured only nineteen inches and a half in length. But the power of motion at all her joints was very free. In the twenty-third year of her age, at which time Dr Ekman saw her, she had never menstruated, and was very thin. But notwithstanding the affections of all the other bones, the head retained its natural figure.

It deserves to be remarked, that the family thus affected, lived in different situations; and the greater part of them lived in the same manner with other labourers in the neighbourhood, who begot very healthy children.

After this remarkable account of the Osteomalacia congenita, Dr Ekman next treats of the *second* species, the Osteomalacia infantum, seu Rachitica. This disease, peculiar to infants, is, he observes, so well described

by practical authors, that any farther history of it becomes unnecessary. He admits, that, as well as the former, this also may be congenital, or, at least, that predisposition to it may be propagated from parents to children. But he contends, that occasional causes have great influence in producing it. In the beginning, it is often without fever; but in the progress of the disease, febrile symptoms supervene, and it is often terminated by convulsions. On dissection after death, the bones are often in such a soft state, that they may be cut like wax; the texture of the muscles, also, appears to be very lax and tender; and some of the abdominal viscera, particularly the liver, are not unfrequently found to be very much enlarged.

The *third* species pointed out by Dr Ekman, is styled the Osteomalacia adultorum, seu Cachectica. This, though mentioned by several writers, from its singular and wonderful appearance, has not however been considered as belonging to a genus of disease by itself, but has been viewed as symptomatic merely of lues venerea, scrofula, scorbutus, or the like. This disease, however, he observes, takes its rise in instances where there cannot
be

be even the slightest suspicion of any latent fomes. After enumerating the most remarkable cases of this affection, recorded by Rivinius, Meibomius, Fernellius, Hollerus, Morand, Lambert, Petit, Herissant, Waldschmidt, Thomson, Cowper and others, he remarks, that before any affection of the bones has been observed, the patient is in general excruciated with very severe pains, supposed to be of the athritic, rheumatic, or syphilitic kind; but without any good reason. With these pains, whether more or less severe, a fever is conjoined; and at the same time, a large quantity of earthy or calcareous matter, unquestionably furnished from the substance of the bones, is discharged with the urine. The longer this excretion continues, the more the bones are softened, not only of the limbs and spine, but also of the cranium and face. In this situation, the bones are broken and distorted, not merely by the weight of the body, but even by the ordinary action of the muscles.

Notwithstanding the cases of this disease recorded by other writers both of ancient and modern date, Dr Ekman thinks, he performs no unacceptable task to his readers, by recording

ording another example of it, which, he imagines, throws great light on the nature of this affection. While many of the other cases occurred with patients in inferior ranks of life, and under suspicious circumstances, this again occurred with a lady in such opulence as to be furnished with every comfort and convenience, and of unimpeachable virtue.

She was a female of a delicate frame, and fine skin; but had enjoyed good health till the twenty-seventh year of her age, and was the mother of two healthy children. In the year 1773, towards Autumn, she became affected with a severe cough, which was even attended with hectic fever, and purulent expectoration: but after the space of five months, in consequence of the use of proper remedies, this alarming affection was completely overcome, leaving, however, in the right mamma a scirrhus about the size of an almond. During the following year she enjoyed but indifferent health; and the scirrhus increased to about the size of a pigeon's egg, being affected with obtuse pain, particularly during the night. In the Summer of 1775, she was attacked with a peculiar fever, attended with an erysipelatous,
or

or scarlet eruption, and some degree of sore throat, with difficult deglutition. These yielded to the antiphlogistic treatment; but she still complained of distressing pains in her arms and legs, returning at intervals through the whole year.

In the year 1776, and nearly about the same time as in the former year, a fever very similar to that with which she had before been affected, again attacked her. It was attended with an eruption, which however disappeared in the space of three or four days. But a much greater degree of weakness remained, with such an affection of the legs and arms, that she was frequently afraid some of them were broken. She now also became affected with constant pains of the legs and arms, which, conjoined with fever, confined her to bed for the space of three weeks. When, after being a little recovered, she attempted to rise, she had scarcely put her left foot on the floor, before she felt a crackling at the articulation of the thigh bone, and fell back into the arms of an attendant. Upon examination it was found, that the os femoris was fractured at its neck. After this she was confined to bed for
near

near three months; and during all that time severe pains continued, particularly in the right arm, right side of the face, and eye of the same side.

In the year 1777, the fracture seemed to be pretty firmly united; but a new and unusual mechanism had taken place. The right eye was subjected to constant inflammation, and the antrum maxillare so distended, as to set the face awry. The vertebræ of the neck were rigidly incurvated, so that the head was bent towards the thorax. The vertebræ of the back were formed into a hunch, so that the body was shortened about ten inches. The right tibia was so deprived of strength, that upon merely lifting the foot, the leg was evidently bent. The lymphatic glands in different parts of the body, particularly in the neck, mammæ, and axilla, were enlarged and indurated. This year also, and about the same season, she was attacked with her usual fever, attended with the ordinary exanthematous appearances. Such was the fragility of her limbs, that she durst not attempt to stand, but was obliged either to ly or sit. A very great quantity of a white coloured calcareous sediment

ment was constantly excreted with the urine; and through the whole of this period she complained of an unusual sense of heat, which both night and day affected the internal parts of her body. In her bed-chamber, while others complained of cold, she felt pleasant. Winter was always agreeable to her; and she was highly distressed by Summer weather.

In the year 1778, to her other affections, and to an increase of the distortions, was superadded a new disease of the kidneys, consisting in violent pain, attended with the discharge of numerous calculi, her urine still continuing to deposite the same calcareous sediment as before. During this fourth year, also, she did not escape her usual fever; and although it suffered a remission in a few days, yet it did not entirely leave her. A diarrhœa supervened, attended with aphthæ, which proved fatal to her. Various circumstances prevented an examination of the body after death. Dr Ekman thinks, however, there can be little doubt, that nothing farther would have been detected than was observed by Dr Hunter on the dissection of the patient affected with remarkable softness of the bones, whose case is related by Mr Thomson,

Thomson, in the fifth volume of the London Medical Observations.

The *fourth* species of this disease, described by Dr Ekman, he styles the Osteomalacia partialis. Under this title he considers that affection, which, either with or without a preceding bad habit of the body, arises from a local cause, by means of which, some one of the bones is deprived of its usual hardness, and degenerates into a soft, fleshy, cartilaginous, or steatomatous substance, or is even rendered so fragile, as to break either of its own accord, or in consequence of the slightest accident. This, in the writings of practical authors, has been described under the names of Osteosarcosis, Caries from an internal cause, and the like.

From an attentive consideration of this affection, it will be found, our author thinks, constantly to derive its origin from some preceding external violence, by which the vessels leading to the affected part, serving for nutrition, are so changed, that they cannot convey a sufficient quantity of properly prepared osseous matter; while, at the same time, the absorbents continue to exert their usual functions,

tions, carrying off the accustomed quantity of bony substance. By this means, the bone is either bent, broken, or distended ; or changed into a soft substance very different from bone.

Of this affection, Dr Ekman remarks, that several cases had occurred to him ; and of these he relates the following, as illustrating the nature of the disease. A young country man, in a state of perfect health, was by accident thrown from a sledge upon the ground, when covered with ice and snow, and his knee very much hurt. The pain and swelling of his thigh and knee, which were thus induced, continued for several weeks ; during which time, different external applications were employed. He at length recovered perfect health, excepting a slight weakness in the knee, which was apt to be fatigued upon motion ; and he continued in this state till the middle of Summer. But at that time, without any new accident, he was seized with obtuse pain in the knee and leg, by which he was confined to bed for several weeks. The thigh now began to swell ; but the knee became emaciated, and a very large tumour took place

place on the foot. He became affected also with hectic fever.

After he had been thus distressed for some length of time, when he was attempting one night to extend his leg in bed, he broke the tibia, just below the epiphysis at the knee. Upon this, new pain, fever, and suppuration ensued; and, upon an opening being made to discharge the pus, the fracture of the bone could be evidently distinguished. Amputation was now considered as the only thing that gave a chance of saving his life; but he died in a few days.

After thus describing the different forms under which this disease appears, Dr Ekman concludes this treatise with some observations on the nature of each. With regard to the *first*, or Osteomalacia congenita, he observes, that nothing has more eluded the researches of physiologists than the business of generation. No one, however, can deny, that chronic affections are often transferred from parents to children; and this, he thinks, certainly depends, not on any peculiar acrimony of the blood, but on a vitiated configuration of the living solids. Some learned men have supposed,

supposed, that hereditary diseases are propagated only from the mother ; but the histories which our author has related of this first species of osteomalacia, prove that the disease was propagated by the father through three successive generations.

When foreign stimuli, acting for a great length of time, excite morbid actions in the body, a due degree of nutrition cannot then take place, and the bones cannot acquire the necessary firmness, chiefly for two reasons. In the *first* place, Not only is the appetite for food impaired, but the whole business of digestion is disturbed ; and, in the *second* place, from the influence of such stimuli, the equable and determinate action of the arterial vessels, so necessary for performing due apposition, is not merely disturbed, but even sometimes entirely suspended. But while, in this manner, the assimilation and apposition of nourishment is diminished, the business of absorption often goes on undisturbed ; and thus, of necessity, a greater proportion of the solids of the body is carried away than deposited. At the period, however, during which the osteomalacia infantum, or rachitica, occurs, such

a condition is the more dangerous, as a large apposition is necessary for the growth of the body. There are, however, Dr Ekman thinks, various stimuli of this nature to which the infant body is exposed; and, as such, he enumerates affections of the alimentary canal, with depraved digestion, arising from bad milk, large quantities of unfermented farina, and other food of difficult digestion, ill fitted to the tender stomachs of infants. Such stimuli are also afforded by want of cleanliness on the surface, herpetic eruptions, excoriations, and the like. These, he remarks, are generally allowed to be the occasional causes of rachitis; and all of them, he thinks, act upon the body by a long continued stimulus, retarding digestion.

The osteomalacia cachectica, seu adultorum, is, Dr Ekman thinks, also to be explained from the influence of long continued stimuli, which appears from its being universally preceded by long continued pains, almost universally extended over the whole body. From the affection of the lymphatic glands, which generally occurs in this disease, some authors have supposed a scrofulous humour to prevail. But this affection of the glands takes place

place only after calcareous matter has been observed in the urine. It is therefore, Dr Ekman thinks, clearly to be attributed to the action of this matter on the glands, and is to be considered as the consequence, not the cause, of the osteomalacia. From this view of the disease, he entertains the hope, that in process of time, some stimulus may be discovered, by which those inducing osteomalacia may be counteracted, in the same manner as the syphilitic stimulus is known to be extinguished by that of mercury.

That no particular acrimony takes place in the osteomalacia partialis, clearly appears, our author thinks, from the cartilages never being affected, although the substance of a neighbouring bone be entirely dissolved. It is therefore, he thinks, wholly to be referred to the action of a local cause, in the manner formerly explained; and, where the situation of the part will admit of it, amputation may be considered as the most effectual cure.

II.

Dissertatio Medica de Arbore Toxicaria Macassarientiensi. Auctore Christ. Æjmelæo, Præsidente Car. Pet. Thunberg, M. D. 4to, Upsaliæ.

IN the dissertation before us, the author introduces his subject by some general remarks on poisons. He observes, that many articles of this kind, destroying the human frame by corrosion, or quickly extinguishing the vital spark, are to be met with in all the three different kingdoms of nature. From the mineral kingdom, we have examples of these in arsenical, mercurial, and antimonial preparations, and in the concentrated acids. In the animal kingdom, the poison of serpents, introduced into the blood in a healthy state, induces fatal symptoms with wonderful velocity. And as, among vegetables, many salutary remedies are found, so also various poisons are to be met with; some of which inflame

flame by a corrosive quality, while others corrupt the blood; and a third set disorder the nervous system, inducing death, after a longer or shorter interval; as, the Curara on the river Orenoque, and the Woorara on the river of the Amazonas in South America, and several others.

Among the strongest of these may be enumerated that Indian poison, which, not without the utmost caution, is obtained from a tree, hitherto undescribed, but known by the name of *Boa upas*. Concerning the powers and use of this article, various and almost incredible particulars have been told, both in ancient and modern times; some of them true, others probably founded on superstition. But, concerning this poison, Rumphius testifies, that he had not met with any other more dreadful, produced from any vegetable. And he adds, that this poison, of which the Indians boast, was much more terrible to the Dutch than any warlike instrument.

This poisonous tree has not hitherto, our author observes, been described by any botanist; but he thinks it probable, that it is at least of the same natural order, if not of the

same genus, with the *Cestrum*. He enumerates the different names which have been given to it in the countries in which it grows. The Dutch inhabitants of India name it Giftboom, or Spatenboom. By Rumphius, it is styled *Arbor toxicaria*; and among the Mallay inhabitants of Malacca, Java, and Sumatra, it has the names of Ipo, Cajo upas, Boa upas, and Lupo matta ju. Two species of it are mentioned by Rumphius, a male and female; but the flowers and fruit are unknown. The tree is represented as having a thick trunk, and spreading branches, covered with a rough, dark, ash-coloured bark. The wood is said to be very solid, of a yellowish white colour, variegated with black spots.

This very poisonous tree grows in several of the warmer parts of India, principally in the islands of Java, Sumatra, Borneo, Bali, Macasser, and Celebes. It is chiefly found in very desert places, and on bare mountains. It is easily distinguished at a distance, as no other trees grow near it; and the earth under it is barren, and, as it were, burnt up.

The juice of this tree, in which the whole deleterious power resides, is of a dark brown colour;

colour ; and, upon drying, assumes the appearance of a resin. That obtained from the male tree, is said to be the hardest and blackest, resembling pitch ; and it may be melted by the heat of fire.

The collection of this resinous juice must be performed with great caution, that the collector may not be endangered. His head, feet and hands, therefore, are carefully wrapped round with linen, that the whole body may be defended even from the vapour which it emits. No one dare approach so near it as to remove the juice with his hands. In collecting the juice, therefore, they employ long bamboos, pointed like a spear at the extremity. These are forcibly thrust obliquely into the bark of the trunk, that the juice may gradually drop into the hollow of the cane, where it condenses into a substance of an obscure red, or blackish colour. The nearer the root that the tree is wounded, the more efficacious is the poison. Sometimes upwards of twenty reeds of this kind are left fixed in the tree for three or four days, that the juice may collect, and harden in their cavities. The upper joint of the reed being thus filled, is cut

off from the remaining part. This juice, while yet recent, is formed into small globules, put into the hollow cavities of reeds, and then kept in a dry place, covered with seven or eight folds of linen : but it must every week be taken out and cleaned, lest it should become mouldy. By exhalation it loses its activity, which is much diminished in the space of one year ; and in a few years is entirely gone.

The poisonous quality of this tree is very dreadful. From the mere halitus which it emits, the limbs are as it were congealed, and at the same time affected with spasms. If any one shall stand under it with his head bare, a loss of hair is the consequence ; and if a drop from the tree falls upon any part, an excessive swelling arises. Even the air about this tree is so infected, that birds, from sitting on its branches, in a short time fall down dead ; and they can even with difficulty fly over it. And not only do no vegetables grow under it, but the ground is barren for near a stone-cast around it. The poison of the female tree, however, is said to be much weaker ; and from that reason it is employed for catching wild

wild beasts. It is not used for poisoning weapons, unless mixed with the stronger kind: but by this the power of both is supposed to be increased.

When any person is wounded with a dart upon which this poison has been rubbed, it very quickly diffuses itself through every part, exciting a violent sense of heat, and great vertigo, to which death soon succeeds. The poisoned weapons, in general, preserve their power for about two years; although, in some instances, it is entirely gone in a few months. It is chiefly fatal from immediate admission into the blood; and accordingly, Rumphius asserts, that the inhabitants of Celebes sometimes venture to employ it as a remedy internally.

For determining the strength of this poison, recourse is said to be had to the following experiment. A quantity of the expressed juice of the root of the Lampujang or *Amomum zerumbet*, having a portion of water mixed with it, is strained through linen, and to this a small portion of the poison is added. Upon this mixture, a sudden ebullition takes place; and, from its violence, a judgment is formed of
the

the strength of the poison. This operation is said not to be dangerous, as the experimenter feels only a sudden increase of heat.

This deleterious poison in general proves fatal in the space of half an hour, sometimes even in a quarter of an hour; so that antidotes can very rarely be employed. The Macasserian kings, with the view of exploring the deleterious power of this poison, have directed experiments to be performed on criminals. But, even in these cases, where a finger or thumb wounded with a poisoned dart was immediately amputated, the patient could not be saved by the operation.

It has been asserted by some, that even fountains have been so infected with this tree, as to become fatal; and that the Dutch have suffered very much from this cause in their wars with the inhabitants of Java. But our author thinks, that this assertion requires further confirmation; and, in particular, it deserves to be examined, whether the juice be of a gummi-resinous nature. Some experiments, he tells us, clearly prove, that it is not entirely of a gummy nature, since it is capable of being dissolved in arrak.

Among

Among the natives of India, this violent poison is employed for the punishment of criminals condemned to death, and likewise for poisoning the weapons which they employ in war. But, notwithstanding this, even in its crude state it is said to be employed as an antidote against other poisons, both when applied externally, and likewise when taken internally. It is particularly used under the form of plaster, against the bite of poisonous insects. It is alleged quickly to allay the pain, and extract the poison sooner than any other remedy. A pill, also formed by mixing it with the pulp of some fruits, is successfully employed in cases of obstinate ulcers, and cutaneous eruptions. This poison, reduced in strength, is used in killing deers and other animals; and their flesh, when thus killed, is ate without any inconvenience.

When the Dutch first carried on war against those Indians using the *Boa upas*, they were obliged to guard against wounds, by garments which the weapons could not pierce. But, in process of time, several antidotes, the refuge of the Indians themselves, were detected. The bulbous root of the *Crinus asiaticus* being
chewed,

chewed, and the juice swallowed, violent vomiting is excited, by which the poison is said to be expelled. For extinguishing the violent heat, the juice of the Melopepo is poured into the wound, and a portion of it ate. The bark of the *Ficus racemosa*, and of the other figs, bruised and chewed, is successfully applied to the wound. But a still more powerful antidote than any of these, is a tree yielding a milky juice, which the Macasserians call Pule or Rite; the footstalks of which applied to the wound are said to extract the whole poison. The most certain of all the antidotes, however, is the root of the Mungos or *Ophiorhiza*, used either externally or internally. From the consideration of these articles, it appears, that the successful remedies are either of an acrid or a refrigerant nature.

Our author concludes with observing, that although there be no doubt of the highly poisonous nature of the tree, to which the Indians give the name of *Boa upas*, yet that no credit is to be given to various superstitious opinions propagated with respect to it, particularly by some of the artful Mahomedan priests; such as, that no tree, shrub or grass, will

will grow within ten or twelve miles of it; that for the same space round it, neither man, nor any other animal, nor even fish in the waters, can live; and finally, that it was produced by the advice of the prophet Mahomet, as a punishment for the sins of mankind.

III.

Dissertatio Medica de Caryophyllis aromaticis.
Auctore Herman. Rud. Haft, M.D. *Præfide*
Carol. Pet. Thunberg. 4to, Upsaliæ.

THE article which is the subject of the dissertation now before us, has been long known both in medicine and in cookery. By the elder Linnæus, the plant producing it, was considered as constituting a particular genus, to which he referred only one species; and this he distinguished by the title of *Caryophyllus aromaticus*. Upon his authority, the same botanical name is given it in the Pharmacopœias both of the London and Edinburgh colleges, and in all the other Pharmacopœias of modern date. But in the treatise before us, we are favoured with a more full and accurate description of this plant, than had before, we believe, been communicated to the public.

In

In place of referring this plant to the class of Polyandria, as Linnæus had formerly done, Dr Haft describes it as being a species of the *Eugenia*, which belongs to the order of Icosandria. He distinguishes it from the other species, six in number, which were formerly referred to that order, by the title of *Eugenia caryophyllata*. And we shall here present our readers with the description which he gives of it, in his own words.

EUGENIA CARYOPHYLLATA: foliis integris, panicula trichotoma, decomposita.

ARBOR, elegans magnitudine pruni cerasi; trunco recto; cortice glabro; ligno duro, cinereo, gravi.

RAMI, virgati, erecti, ramulosi.

FOLIA, opposita, decusata, petiolata, elliptica, integra; supra viridia, nitida; subtus pallidiora, parallelo-nervosa, digitalia.

FLORUM, panicula decomposita, trichotoma.

CALYX. Perianthium quadripartitum; laciniae ovatae, obtusae, inflexae, persistentes.

COROLLA, tetrapetala, caduca; petala ovata, obtusa, concava; calyce paulo longiora.

STAMI.

STAMINA. Filamenta plurima; corollæ basi inferta, filiformia; corolla longiora, cumque illa caduca; antheræ, globosæ, minutæ.

PISTILLUM. Germen inferum annulo nectareo cinctum; stylus unicus, simplex, persistens; stigmata quatuor, cruciformia.

PERICARPIUM. Drupa oblonga, initio clavata, dein ovata calyce coronata; nux ovato-oblonga.

After this description of the Clove-tree, Dr Haft next presents us with the various synonymes which have been given it, not only by botanists of eminence, and by the different European nations, but also among the Asiatics, particularly in different parts of India.

The species of *Eugenia* which produces the cloves, grows spontaneously in the Molucca or Clove Islands, as they have been called, which ly in the Indian Ocean, almost under the equator. But they were particularly found in one of those islands named Mackian; from whence it is alleged, that the young trees have been transplanted into the other neighbouring islands, particularly into Amboyna,

boyna, where they are now cultivated with great industry and attention. But although it has been said, that this transplantation took place only a short time before the Portuguese first visited those parts of India ; yet, from the accounts given of the apparent age of the trees at that time, Dr Haſt concludes, that the clove-tree is a native of Amboyna, as well as of Mackian.

Before the arrival of the Dutch in those parts of India, cloves were the produce of different islands ; but, ſince their conquests, they are now to be met with only in Amboyna, and three ſmall neighbouring islands, Oma, Honi-oma, and Nuffalauto : For the policy of the Dutch led them to deſtroy the clove-trees in all the other islands ; and they ſtill carefully, every year, burn and deſtroy thoſe clove-trees which grow up ſpontaneouſly in other places in that neighbourhood. They have not, however, been thus able to prevent the introduction of the clove-tree into other places. For, in the year 1770, the French circumnavigators found plants of this, as well as of the nutmeg-tree, in New Guinea, and in one of the Molucca islands named Geubu. From thence

they transplanted it to their colony in the Isle of France, and afterwards to that of the island of Cayenne in South America, where it now grows in a very flourishing condition.

At a very ancient period, the Chinese trading to the Molucca islands, carried cloves from thence, and sold them to the Portuguese, by the intervention of whom they were communicated to the rest of Europe. But after the year 1652, when the Dutch destroyed the trees in the other Molucca islands, they obtained a monopoly of this article. They then cultivated the trees with the greatest attention in the island of Amboyna, where they could most securely defend them, and collect the fruit with the greatest ease. But besides this, it was also found, that the trees became better by culture; as, while the branches did not rise so high, the fruit acquired a greater aroma. The culture was so much attended to, that it has been alleged, that, in the year 1656, there were in Amboyna no less than 120,000 of these trees.

Where no care is bestowed in culture, the clove-tree is, as it were, spontaneously propagated by four species of birds, particularly by

a green and white pigeon, who take the ripe fruit as a food, and again discharge the seeds in the woods.

The flowers begin to appear in June ; they are in full flower in August ; and, for some months after, they ripen their fruit. At the commencement, the flowers are green ; from this they become gradually yellow ; and at length red. During this process, the pericarpium swells, becomes thick, and ripens its nucleus. The collection of the cloves takes place as soon as the flowers acquire a redish colour. The earth under the trees is then cleared. Then some one, cautiously ascending the tree, draws the tender branches towards him with hooks provided for the purpose, and either collects the cloves into a basket, or throws them to the ground. The cloves thus collected are exposed to smoke for some days, to give them a red colour : they are then dried by the heat of the sun, and thus acquire, on their external surface, a blackish red. After being dried, they are carefully picked from the foot-stalks and other parts, before being weighed. The crop-time extends from October till December ; and, in the island of Amboyna alone, upwards of two millions of pounds

have been collected in one year. The best cloves are those of an acrid and warm taste, and which, when pressed, give out a fatty moisture to the fingers.

The clove-trees give out a very strong smell, particularly in the time of efflorescence; so that a headach is very apt to be excited by walking in the plantations in the months of October and November. And if any one sleeps in a chamber in which the collected cloves are kept, severe headach and nausea are the common consequences.

From their effects upon the human body, they are represented as calefacient, tonic, stomachic, fralagogue, and emmenagogue. They attract moisture with great avidity, as is well known to be the case with pepper. On distillation with water, they yield a large proportion of essential oil; but their distilled oil, as imported into Europe from India, is in general mixed with an equal quantity of insipid expressed vegetable oil. Oil is sometimes distilled at Batavia, not only from good cloves, but from those also which have been somewhat corrupted; and the oil thus obtained is of a
very

very acrid and hot taste, of a brown colour, and thicker consistence.

Cloves are extensively used both in India and Europe, not only in diet, but also in medicine. The Indians use cloves, mixed up with certain ointments, for rubbing their bodies: They likewise mix them with their tobacco for smoking; and they rub the distilled oil of cloves, weakened by a mixture with other oils, upon paralytic limbs. They exhibit this oil also internally, to the extent of a few drops, in cases of flatulent colic. Among the European nations, they are more frequently used, our author observes, for dietetic than medical purposes. It would here be unnecessary to mention the various uses made of them in the former of these ways. But, for medical purposes, they are chiefly employed in cases of languor of the stomach, and nausea; and, with these intentions, they enter various electuaries and tinctures. In the way of chewing, they are employed to excite salivation: and, for allaying the pain of toothach, a small quantity of the essential oil, dropt upon cotton, is often introduced into the tooth with advantage.

IV.

Dissertatio Medica de Myristica. Auctore Frederico Vilhelm Radloff, Preside Car. Pet. Thunberg. 4to, Upsaliæ.

THIS dissertation, as well as that which we have just considered, treats also of an article which is in very common use. And the author introduces it, by giving the following accurate description of the tree which produces the genuine nutmeg.

MYRISTICA MOSCHATA: foliis lanceolatis, fructu glabro.

ARBOR, magnitudine pyri vel ultra, cortice lævi fusco-cinereo.

RAMI, patentes, ultimi capillares glabri.

FOLIA, lanceolata, acuminata, integra, alternata, parum nervosa, glabra, supra viridia, subius pallida, digitalia.

FLORES,

FLORES, in ultimis ramulis pedunculati, sparsi, solitarii, monoici.

CALYX. Perianthium uniphyllum, trifidum glabrum. Laciniae ovatae, erectae, breves.

COROLLA, nulla.

STAMINA. Filamentum unicum, filiforme calyce brevius. Anthera sub apice filamenti, perforata, striata.

PISTILLUM. Germen superum. Stylus crassus, didymus, brevis. Stigmata duo, acuta, brevissima.

PERICARPIUM. Drupa ovata, umbilicata, glabra, unilocularis, lateraliter dehiscens, in pedunculis reflexis pendula. Caro pallide virescens, tandem pallida, astringens. Nux maci reticulata, aurantiaca, cincta rugosa. Nucleus rugosus.

Besides this species of the Myristica, from which the genuine nutmeg is produced, another species is, he tells us, also very common in India, and sometimes used there, which he describes under the title of the Myristica tomentosa, and in the following terms.

MYRISTICA TOMENTOSA: foliis ovatis, fructu tomentoso.

ARBOR, minus, ampla et ramosa ; ramis ramulisque magis crassis.

FOLIA, lato-oblonga, obtusiuscula, crassa, nervosa, supra viridia, subtus pallida, parum tomentosa, palmaria usque pedalia.

FLORES ad basin ramulorum, pedunculati, solitarii, pedunculis brevibus, crassis, tomentosis.

FRUCTUS, drupa oblonga, obtusissima, sub-tomentosa.

Besides these two species, Dr Radloff observes, that Rumphius has described and delineated some other trees nearly resembling them. But as their parts of fructification are still undetermined, it cannot be positively known whether they belong to this genus or not. Among the Indians, the *Myristica moschata* has the name of Pala, and the *Myristica tomentosa*, of Pala Lacki; although, in different islands, they have different denominations.

The *Myristica* grows spontaneously in the Molucca islands; but it is chiefly cultivated in Banda, and in three small neighbouring islands, Neijra, Lontoir, and Pulo Aij. From Neijra

it is alleged that the best nutmegs are brought; but in Pulo Aij are the largest and most beautiful trees. In all the other Molucca islands, the Dutch have now destroyed and rooted up the trees bearing nutmeg. Dr Radloff, however, tells us, that the industrious M. Sonnerat found the *Myristica* growing in New Guinea. The culture of the nutmeg has not succeeded in the French African islands; but it is found to grow luxuriantly in their American settlement of Cayenne.

This valuable tree delights in mountainous situations, but requires, in some degree, the shade of other trees, that it may not be scorched by the heat of the sun. They require likewise to be defended against sea-winds with saline impregnations. When the trees are five or six years old, they begin to bear fruit; but they produce the most abundant crop in their eighth or ninth year. They are spontaneously propagated by the pigeons, who swallow the whole fruit, but digest only the mace and pulpy part, and discharge the nut. The Dutch, however, sow the whole fruit, and transplant the young trees at pleasure. But the whole care of cultivating and
collecting

collecting the fruit, is carried on by their slaves.

The Myristica may be considered as producing fruit through the whole year, as it flowers and ripens its fruit in a sort of gradation ; but the ripe nuts are chiefly collected at three different periods of the year. The greatest crop is collected about the end of July or August. At that time, however, the mace is thin. A second crop is obtained in November, and a third in March and April. At this last period the thickest mace is obtained. The sign of ripeness, is, the exterior covering obtaining a light red colour.

The fruit, when collected, is cut up with knives, and the external fleshy part left to putrefy in the woods. The nuts, thus far cleared, are brought home, and the mace removed from them by the aid of a knife. It is exposed to the sun to be dried ; during which process it acquires a yellowish colour. The nutmegs also are exposed to the sun for three or four days, but are taken into a house every night, lest they should be hurt by the dews. The nuts thus dried, are divided into three parcels. The first, being the largest and best,
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are intended for the European market; a second sort is used in India; and the third kind is, in general, only employed for making oil. Before the nutmegs be exported, they are in general infused for eight days in lime-water, by which it is thought they are defended from putrefaction and from insects.

The mace, after being well dried, is put into bags, each containing about one hundred and sixty pounds. It is, however, in the first place, sprinkled with sea-water, lest it should become too brittle, and break into small fragments.

From the nutmegs in India, two kinds of oil are prepared; an expressed, and a distilled oil. Of these, the distilled oil is rarely brought to Europe. It is of a pellucid appearance, and possesses the full aromatic quality of the nut. The expressed oil is obtained from an inferior sort of nuts. The nuts, roasted and bruised, are subjected to pressure, till a thick oil, nearly of the consistence of melted butter, is obtained from them; and it becomes still thicker after being kept for some time in the square vessels into which it is received from the press.

From

From the mace, when bruised and heated, an oil is also obtained, of a redish colour, and a fatty and bitterish taste, but without exciting any great sense of heat in the mouth. From about seventeen pounds of mace, half a pound of this oil is obtained.

The Dutch in India sometimes preserve, under the form of a condiment, with sugar, the fruit taken from the tree before it be ripe. For this purpose, after being picked from the tree, they are boiled in water, then pierced with a needle, and afterwards macerated for eight or ten days in fresh water frequently changed, till the whole bitterness be removed from them. After this, they are put into a solution of sugar, which, for eight days, is to be every day poured off from the nuts, heated, and then again added to them. They are then boiled in this syrup, and afterwards preserved in glass vessels properly shut.

When it is considered that the *Myristica* is a tree yielding a bloody juice, and highly aromatic, it is not wonderful that it is not entirely free from all suspicion of a poisonous quality, although, when prudently exhibited, it is usefully employed both for dietetical and medical

cal purposes. It has however been demonstrated, by some melancholy examples, that the halitus, both of the tree and of the fruit, have not only been hurtful to those imprudently exposed to them, but have even induced death. Several examples are mentioned by Rumphius, of fatal effects, not only from eating the nuts, but also from sleeping under the tree. From too large a dose of these nuts, there is induced oppression at the breast, difficult respiration, intense thirst, headach, vertigo, and fatal apoplexy.

With regard to the medical use of nutmegs, Dr Radloff observes, that they were introduced by the Arabian physicians, and are first mentioned by Avicenna. They have been long considered as useful for promoting digestion in weak stomachs; and, when prudently used, are often productive of advantage both in bloody and ferous discharges. In cases of diarrhoea and dysentery, toasted nutmeg, with red wine, or any similar vehicle, is often used with advantage. They have also been found useful against nausea, vomiting, and cough, particularly with pregnant women.

From

From the external use of the nutmeg, or of its oil, the same danger is not to be apprehended as from their internal use. In India, the expressed oil is often employed with advantage, under the form of friction, to paralytic limbs: and in Europe, it is often applied to the umbilical region, to allay violent gripes, or evacuations of the primæ viæ; and, when rubbed upon the temples, it has been said to excite sleep. The essential oil, as well as a tincture from the nutmeg, is often serviceable in weakness of the stomach; and nutmegs, preserved with sugar, are also used with the same intention. The wood of the tree is not unfrequently, in India, employed in house-building, and for other œconomical purposes.

The fruit of the *Myristica tomentosa*, also, although of an inferior quality, is often, our author observes, employed for the same purposes as the genuine nutmeg.

Dissertatio Medica de Nutrimento Corporis superfluo, ut vera Arthritidis causa. Auctore Alberto Julio Segerstedt, Præside Joh. Gust. Acrell. 4to, Upsaliæ.

THE author of the dissertation before us, sets out with observing, that if we want to raise practical medicine from the errors of empiricism to the dignity of philosophy, we must, with assiduity, endeavour to investigate the proximate causes of diseases, or those states of the animal machine, which, when present, give rise to a particular disease; when absent, remove it. As, in other sciences however, so also in that of medicine, truth is to be sought for in a labyrinth of errors; and, from the earliest ages to the present time, opinions, singular and inconsistent with the laws of nature, have been adopted even by eminent men.

For

For the truth of this assertion, he appeals to the different opinions which, even among the most eminent moderns, have been adopted with regard to the proximate cause of the gout. The defective knowledge of anatomy and physiology among the ancients, may be some apology, he observes, for the opinions of Hippocrates, referring gout to a putrid bilious humour ; of Paracelsus referring it to inflamed sulphur and the like. But, even with all the knowledge of modern times, the diversity of hypothetical opinions proposed by Strack, Pensart, Coste, Cullen, and others, clearly evince, he thinks, that nothing certain is yet established upon this subject. Whether he himself, however, has been more successful, the candid reader must determine, after an attentive examination of the observations and arguments which he here employs, with the view of establishing his own hypothesis.

In endeavouring to unravel such intricate phaenomena of nature, as the causes of disease in general are, it is necessary, he remarks, to have constantly before our eyes the laws of nature ; to observe, with assiduity, the phaenomena resulting from occasional causes ; and
carefully

carefully to mark those inconveniencies in the animal œconomy which take place. When attempting to investigate the nature of gout, according to these rules, it is first, he observes, necessary to consider the habit of body most liable to this disease, or, in other words, its predisposing causes; and then to attend to those particulars which are generally admitted to be occasional causes, and to the effects which they produce in a body predisposed. From reflecting on these particulars, a proximate cause has occurred to our author, very different from that proposed by any other writer, and which, he thinks, affords a ready explanation of all the phænomena of the disease.

His opinion is, that the proximate cause of gout is to be sought for in the superfluous nourishment of the body; a greater quantity of nutritious juice being prepared than is necessary for its support, and for the supply of those parts which are daily lost, and which, at the same time, cannot be conveniently discharged. This nutritious juice, however, he is so far from considering as being in any degree in an acrimonious or depraved state, that he looks upon it as being perfectly homogeneous to our

system, and well fitted for nourishing it at another time, or with another condition of the body. In attempting to establish this new theory, he claims the candid indulgence of the reader; which he rather expects, from the consciousness that, when he differs from commonly received opinions, he is much more actuated by the desire and love of truth, than of novelty.

Although the gout has been accurately described by different writers; yet, as it is often not very easy to distinguish it from other painful diseases, Dr Segerstedt thinks it may not be improper to premise an accurate definition of it. Arthritis, he defines in the following terms: "*Morbum febrilem cum dolore inflammatorio juncturas præcipue artuum occupante, per intervalla invadentem, cum ventriculi et internarum partium affectionibus alternantem, et sine externa causa evidenti ortum.*" By these marks, he thinks that it may be easily distinguished from other painful diseases, and particularly from acute or chronic rheumatism, with which it is often confounded; for rheumatism very generally
arises

arises from an obvious cause, particularly from the action of cold.

When he is here to derive the origin of gout from superfluous nourishment, he thinks it necessary to begin, by considering the increase and daily support of the body. When man, beginning from an almost invisible germ, is to arrive at a determined bulk, it is necessary that he should obtain particles from those bodies which are placed around him. Nutritious juice, however, is not only necessary for the increment of the body, but also for repairing the daily waste, both of the solids and of the fluids. There is therefore a daily appetite both for food and drink; and from these is prepared a liquor, which is first mixed with the blood, and afterwards so united with the solids of the body, as to partake of life.

Food is taken either from the vegetable or animal kingdom. Vegetables, our author thinks, nourish the body, from containing a saccharine principle. They do not, however, he imagines, afford so much aliment as animal food, which is more homogeneous to our na-

ture, and more readily converted into nutritious humour.

Physiology teaches us, that nourishment is conveyed by the ultimate arteries to every different part of the body; and there, by a peculiar power of nature, which has been termed the *nifus formativus*, it insinuates and coalesces. But as this action, beginning from the earliest periods of life, tends to the increase of the body; so also, both for forming the appearance of the body, and for removing all that matter which, by the law of change, grows old, human nature exerts also another action, by which the elementary particles, either rubbed off or superfluous, are removed and expelled from the body. This, again, has been termed absorption; and, although not unknown to the ancients, yet it has been more fully illustrated by physiologists of modern times. As, however, it is evident that health and life depend on a necessary quantity of nourishment, a fault, either with respect to too small or too great a quantity, must necessarily induce various affections.

The nourishment of the body may be styled superfluous, when that portion is not absorbed
from

from the solids, which is either equal to the difference between the apposition and increase while growth continues; or, after the growth is finished, equal to the whole apposition. But this abundance may arise, either where the nutritious juice is prepared in too great quantity, or where the absorbents fail in the discharge of their duty; or, finally, where these two causes are conjoined, which, our author thinks, is not unfrequently the case. That morbid affections may arise from thence, any one, he thinks, will readily perceive. But Gout, which is justly placed at the head of the painful diseases, which, quickly breaking down the vigour of life, produces troublesome old age, and renders the better sort often most miserable, clearly, he thinks, springs from this root. To prove this, he first proceeds to make some observations on those causes of gout which are universally admitted by medical writers, and then to treat of the phenomena of the disease, and of the explanation of these phenomena.

The predisponent and occasional causes of gout are, he observes, so nearly connected, that they cannot, with advantage, be distin-

guished from each other. He proceeds, therefore, to make a few observations on the chief of them.

The *first* cause, of which he takes notice, is the age at which this disease occurs. He considers it as much in favour of his opinion, that Arthritis rarely attacks any one till the body arrives at full maturity. It commonly begins between the thirty-fifth and fortieth year; and, as he has afterwards occasion more fully to mention, almost only attacks men. The bodies of men, at this period, are much changed; for the growth of the body, both in length and thickness, is now finished, and the powers both of mind and body may be considered as at their highest perfection. The arterial system, which till now was tender, lax, and extensile, becomes more dense, firm, and narrow. That plethora, therefore, which, in the youthful period of life, oppressed the arteries, from their ceasing to be extended and increased, is landed upon the veins, and induces in these an atonic state. Hence, in proportion to the quantity of blood, its return to the heart is more slow; and thence follow, enlargements of the veins, hæmorrhoids, affections

affections of the liver, and the like. If, however, at this time, the quantity of food be not diminished, and if the powers of concoction remain entire, the nutritious fluid will be prepared in the same quantity as in the youthful period of life; and as no part of it is now expended on growth, it must be more abundant than is consistent with health. Hence, he contends, it follows, that at no period is the human body more disposed to Polychylia, or the real cause of gout.

The *second* cause of gout, which Dr Segerstedt mentions, is the circumstance of sex. Arthritis, he observes, chiefly occurs with men. It rarely attacks females, unless the make and appearance of their bodies approach somewhat to that of men, and after they are so far advanced in life, that the menstrual flux has ceased. Women, he observes, are not easily affected with venous plethora, or those other inconveniencies which result from superfluous aliment; and if fulness at any time occurs, it is readily carried off by menstruation, or other functions peculiar to the female sex. Eunuchs and effeminate men, whose bodies approach more to those of females than of

males, are very rarely affected with gout. Men of genius, and of lively parts, are frequently subjected to this disease, which, our author thinks, may be easily explained from their company being more courted, and from their being, of course, more engaged in entertainments, both in the way of eating and drinking.

The *third* cause of gout which he considers, is, hereditary predisposition to the disease: This, he observes, may be justly considered as one of the most puzzling parts of pathology. That the disease, however, is propagated from one generation to another, and thus to latest posterity, is an undeniable fact. To suppose, however, that this happens from any *seminum sui generis*, communicated in conception to the embryo, would not be the reasoning of a philosopher. It is, he thinks, with much greater probability, to be sought for in the evident similitude between parents and children, which not only extends to the outward appearance, but also to the internal structure of the body, and even to the vigour of the absorbents. Where, therefore, there is a hereditary disposition to gout, he concludes, that, with an excellent digestion, producing abundance of nutritious juice,

juice, a weaker system of absorbents is derived to the children from their parents.

Among the causes of gout, a luxurious diet is always enumerated; and particularly a diet of animal food, conjoined with the use of wine, spirits, and fermented liquors. These liquors, he thinks, in a double way tend to promote abundance of nourishment; for, by stimulating the stomach, they not only excite appetite, but also promote digestion. But, as all stimulants, long applied to the living fibres, at length debilitate; so the daily liberal use of wine reduces the fibres to an atonic state: whence the vigour of the absorbents is diminished, and their action retarded. But whatever, on the one hand, increases the aliment, and, on the other, debilitates the absorbent system, must necessarily produce polychylia, especially as, here, by the use of spirits, the action of the absorbents is not so easily excited as that of the stomach, on which they immediately act.

The last cause of Arthritis, of which Dr Segerstedt treats, is the action of cold. Cold, he observes, exerts its sedative power upon the vessels, inducing atonia, and thus impeding absorption. Hence, cooling of the feet is oft-

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en the occasional cause of a paroxysm of gout. Hence the frequency of the disease in Spring and Autumn, when the air is cold and moist. Arthritic patients are in general best in Summer; and heat has often proved a remedy to those who, after being much distressed with the disease in cold climates, have gone to India. From the same cause, also, he thinks we are to account for the disease rarely affecting the inhabitants of warm climates. He thinks it probable, that the action of heat is to be explained, not only from its promoting a constant diaphoresis by its stimulant power, but also from its exciting the absorbents to perform their functions.

Of the other causes of gout, all of which are less certain, he reckons it unnecessary to make any observations. He thinks, however, that almost all of them clearly tend, either to increase the quantity of the nutritious fluid, or to retard the action of the absorbent vessels.

From the observations mentioned above, it is, Dr Segerstedt thinks, demonstrated, that all the causes of gout agree in producing in the body a greater quantity of nutritious matter than

than is necessary. And he next proceeds to shew, in what manner a fluid, valuable and friendly to the body, exceeding in quantity, should become hurtful. The parts of this fluid being elaborated and fit for apposition, the blood, of necessity, comes to be loaded with them; and since the body has now arrived at its full growth, and there is no room for further deposition, this fluid begins to distend the veins, particularly of the system of the *vena portarum*, which easily yields to impulse. Hence various affections first take place in the abdomen; such as hæmorrhoidal efforts, and the like. And at this period the foundation is often laid for distressing, and even fatal diseases; such as indurations of the liver, with their consequences, jaundice, dropsy, and the like. From these, however, the patient is often delivered by the occurrence of gout; the superfluous nourishment being determined from organs of importance to the extremities. In this manner, he is affected with pains wandering through almost every joint of the body, and known by the general appellation of *Arthritis vaga*.

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These pains, our author thinks, arise from the nutritious juice circulating through the body, exerting, although in vain, an effort to coalesce with the solids. Hence it necessarily follows, that the vessels are distended, and the nerves much irritated. This he supposes to happen in the same manner as those pains which occur with infants tending to a state of puberty, which in every respect resemble gout, and which, he thinks, proceed from no other cause than abundance of nourishment, when the apposition is diminished. At this period, also, the viscera of the body are not entirely free; for the superfluous nutriment often affects an internal part, before weakened by any accident. Thus, from affecting the head, it gives rise to Cephalagia, Vertigo, and Hemicrania: In the Breast, to Coughs and Asthma; and in the Abdomen, to Anorexia, Soda, Colica, Vomitus, Diarrhoea, and the like.

In parts of a delicate structure, this fluid is sometimes observed to be deposited, and to coalesce, disturbing the functions, and producing a disease which cannot be remedied. Not unfrequently, also, it is, with remarkable relief

lief to the patient, discharged by some evacuation ; such as, vomiting, but more frequently diarrhoea : and the patient continues easy till a new collection of superfluous nourishment produces the same inconveniencies as before.

After these observations on the Arthritis vaga, he next proceeds to consider that form of Gout, in which the superfluous nourishment at one time affects the internal parts, and at another is driven to the external parts, and recurring, as it were, at stated times, attacks certain members. This, again, has the name of the Fixed, or Regular Gout, and has had the appellations of Chiragra, Gonagra, or Podagra, according to the place in which it is seated. He supposes the superfluous nourishment, in the method already mentioned, to affect the stomach and intestines ; and, by the stimulus it occasions to these, not only is the function of digestion disturbed, but eructation, nausea, vomiting, costiveness, and the like, often attended with febrile commotion, announce an approaching paroxysm of gout.

By the continuance of this stimulus, febrile commotions take place in the whole system, which is followed by a distension of other parts,

parts, particularly of the venous system, which, before a paroxysm of gout, is always observed to be in a turgid and atonic state. But this distension chiefly exerts its influence on parts remote from the heart; as in these, the return of the venous blood, less aided by the vis à tergo, and the action of the muscles, is more difficult, and at the same time absorption is more slowly performed. In the extremities of the body, therefore, the sensibility of which is now also increased, a new irritation arises, which produces inflammation, and its concomitant, pain. By this, in consequence of the ordinary law of the system, which difficultly admits two morbid actions at the same time, the distress in the abdominal viscera ceases.

While this superfluous nourishment is carried to those weak places of the system, Dr Segerstedt supposes, that its thinner part is either carried off by a critical sweat, or is absorbed, leaving in the affected part, especially after different attacks of gout, tophaceous concretions. Such concretions, he alleges, are observed in the internal, as well as in the external parts; but they are most manifest in the small articulations of the feet and hands: and they

they contain a matter similar to the elements of the solids. The body, thus freed from superfluous nourishment, regains health, till another morbid collection of the nutritious fluid, or an accidental obstruction of its absorption, again produces the same evils as before.

From this theory, also, Dr Segerstedt thinks, that the Arthritis aberrans, or that modification of it which, with wonderful celerity, passes from one member to another, may be readily explained. For the superfluous nourishment, equally diffused through the whole body, must, he thinks, in the first place, exert its action on the most tender and most sensible parts. But the inflammatory action of the vessels in these, being diminished by atony, the effects of abundant nutriment will be suddenly felt in others next in debility and sensibility; and thus parts will be alternately affected, not without great danger.

After thus delivering his own opinion respecting the manner in which the different symptoms of gout may be explained, he next offers a few remarks on the theory which has hitherto been most prevalent; that, to wit, which supposes a peculiar arthritic matter to
contaminate

contaminate the blood, and which is capable of exciting, in any part in which it may fix, the most excruciating pains. It is unnecessary for us to state the various objections which he urges against this hypothesis. We may only observe, that he considers it as affording a much less probable explanation of the symptoms, than the theory proposed above.

After thus endeavouring to establish his theory, from the consideration of the causes, and the explanation of the symptoms of gout, he next proceeds to make some remarks on the cure. If the theory which he has proposed be well founded, from proper practice very great assistance may be expected against the excruciating torments of this disease. And here Dr Segerstedt readily assents to the maxim of Petrarch, "*Si à podagra liberari cupis, aut*" "*pauper sis' oportet, aut ut pauper vivas.*" But, still farther to show the practical application of his theory, he proceeds to offer some remarks on the remedies which are commonly opposed to this disease.

He first treats of different evacuants, which may seem well calculated to lessen superfluous nourishment. Emetics, he observes, serve indeed

deed to promote absorption from every part of the body, and evacuate from the stomach that acid saburra which is the attendant of an approaching paroxysm; but are inadequate to the radical cure of the disease. Mild laxatives he considers as more useful, since they promote circulation through the viscera, and at the same time evacuate abundant nutriment. Venesection, which directly diminishes the mass of blood, and of course the nutriment of the body, serves, he thinks, both to prevent and alleviate paroxysms; but, though successful with the robust, yet, with the debilitated and aged, it is hurtful, by diminishing the *vis vitæ*.

All sudorifics he considers as abounding, more or less, with a warm stimulus, by which some degree of fever is excited. He considers them, therefore, as accommodated to those cases only where the pulse is weak and slow; where the powers of nature languish, and are insufficient for promoting the topical tumour. He looks upon those as the best, which excite and promote perspiration in the parts affected with gout; such as, gently-stimulating warm fomentations, or, what are perhaps even preferable,

ferable, those which support and retain the natural heat of the part, as flannel, furs, or the like.

The tribe of corroborant medicines, he considers as chiefly useful in consequence of the paroxysm sometimes arising from weak absorption. But since these articles chiefly exert their force upon the chylopoetic viscera, and do not affect the remote absorbents, the nutriment of the body will rather be increased than diminished by them; and accordingly, though they may sometimes remove or retard a paroxysm, yet he considers them as increasing the cause of the disease, and often, accordingly, driving the gout to the more important parts, the head and breast; the superabundant nutriment acting upon these.

Among other remedies, in certain cases, topical irritations have been directed to be applied to parts which are usually the seat of gout. These he considers as useful, when the languishing powers of nature are not sufficient to drive the superfluous nutriment from the internal parts of the body to the extremities, and when the irritability of these parts is so diminished, that inflammation cannot be easily excited.

excited. With these intentions, epispastics, issues, setons, actual cautery, and the like, have been employed; and not without advantage.

The last particular, respecting which Dr Segerstedt offers any observations, is diet. He remarks, that by frugality and temperance alone, this direful disease has been completely overcome. Vegetable food affords a less quantity of nutriment to the body than that which is taken from the animal kingdom; but it is by no means altogether free from inconvenience: for, when the disease is of long standing, it debilitates too much, and is better accommodated for the prophylaxis than for the cure. Milk diet, which, from authors of the first eminence, has obtained the highest encomiums, he doubts not, may be highly useful to those labouring under the disease at an early period of life. It is, however, he observes, very necessary, that after a milk diet is relinquished, the patient should live on a frugal and temperate plan; for, if he gives way to luxurious living, the worst consequences will arise. But, besides the necessity of frugality with respect to eating and drinking,

and of the sparing employment of those practices which tend to debilitate, bodily exercise, and particularly frequent motion of those parts in which the pain of gout is chiefly seated, must be strongly recommended. Without mentioning other evidence in support of this, he considers it as sufficiently established from the single case of a dancing-master, related by Van Swieten, who, for upwards of twenty years, was twice annually affected with gout; but, urged by necessity, even when his pain was very severe, he was obliged to engage in his usual occupation. Under this mode of treatment, however, he was much sooner relieved from the paroxysm, than is usually the case; nor did he ever suffer from rigidity of the joints.

How far, after an attentive examination of this theory, the candid reader will be disposed to adopt it, we cannot pretend to say. In our opinion, many well established phænomena, respecting the disease, might be mentioned as very strong objections to it. And, in the varied forms which this affection puts on, there are a variety of symptoms of which it is very difficult to give a rational explanation, either
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on this or any other theory which has yet been proposed. We may, however, observe, that if the present hypothesis be in any degree well founded, it will lead to a more simple and rational plan of cure than any other yet proposed, with which we are acquainted. And we may also add, that the plan of treatment, which is at least generally allowed to be most advantageous in the prevention and cure of gout, is not adverse to the supposition that the disease depends on superfluous nourishment.

VI.

Observations on the Pemphigus. By Stephen Dickson, M. D. Fellow of the College of Physicians, and one of the King's Professors of Physic in the City of Dublin, M. R. I. A. &c. Vide the Transactions of the Royal Irish Academy for 1787.

THE subject of these observations, is a disease which, we need hardly remark, but rarely occurs; and probably, when occurring, it has in some instances been considered, either as an affection entirely of an anomalous nature, or has been confounded with other diseases. An attempt, therefore, to give an accurate delineation of its history, as well as to point out the most successful method of cure, may justly be considered as well meriting the attention of practitioners. We are here presented with the result of Dr Dickson's observation, from having witnessed six different cases of

of this disease; three of which occurred in Scotland, one in England, and two in Ireland.

Dr Dickson sets out with observing, that Dr Cullen, whose labours as a nosologist have tended in no inconsiderable degree to the improvement of medicine, has classed Pemphigus in the order of Exanthemata, and has defined it to be a contagious disease, in which vesicles, about the size of an almond, appearing on the first, second, or third day of the disease, and remaining for many days, at length pour out a thin ichor. Dr Cullen's description, however, is taken from other authors, not from his own observation; for, as he himself tells us, the disease never occurred to him in his own practice; and Dr Dickson considers the description as in several particulars erroneous.

In the *first* place, he entertains doubts, whether this disorder be contagious. He has seen vesicles arising, not only on the first, second, or third day of the disease, but on every day of it. He has never known them remain for many days. The fluid they have contained has not in general appeared to be an ichor or sanies, but a bland, inodorous, and insipid se-

rum. And, *lastly*, instead of being poured out, he has found it most commonly absorbed into the system. From all these considerations, then, he proposes the following as an amended definition of it.

A fever, accompanied with the successive eruption from different parts of the body, internal as well as external, of vesicles about the size of an almond, which become turgid with a faintly yellowish serum, and in three or four days subside.

Before relating his own observations, Dr Dickson gives some account of authentic and decided instances of this disease which had occurred to others. He has not been able to find any traces of it in the writings of the Greek, Roman, or Arabian physicians; and any thing described by Bontius, in his *Medicine of the Egyptians*, which can be considered as resembling it, is too vague and general to warrant any conclusion.

Carolus Piso, he observes, has accurately described the genuine Pemphigus, as it appeared in the case of Egmont de Rinach, about an hundred and fifty years ago, at Nantz. He next takes notice of cases described by Morton, as occurring
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in London about an hundred years ago ; then of those observed by Sauvages in the hospital at Montpellier, about the year 1725 ; and lastly, he takes notice of a case treated by the late Dr David Stewart of Aberdeen, an account of which was communicated to the public in the sixth volume of these Commentaries.

Among all these histories of the disease, Dr Dickson observes, that no one has taken notice of an extraordinary peculiarity in this disorder, which he observed in two instances ; that the vesicles, viz. have taken possession of the internal parts of the body, and proceeded in succession, from the mouth downwards, through the whole tract of the alimentary canal, some rising, while others decayed. The first case in which he had an opportunity of observing this singular and distressing symptom, was that of a woman, treated by Dr Gregory in the Royal Infirmary at Edinburgh in 1783. In this case, the menstrual flux had been obstructed for an year and a half ; during which period, she had been twice before subjected to the same disorder, and on each of these occasions it had succeeded to a vomiting of blood. Peruvian bark and wine were liberally administered

nistered to her; and, under the use of these, she recovered.

The other case, in which vesicles appeared to have been formed internally, occurred to Dr Dickson in Dublin; and he presents us with a very full relation of the different particulars which occurred during its course. In this case, he had an opportunity of examining the progress of the disease from its very commencement. The patient was a married woman, in the 23d year of her age, of a delicate form, and sanguine temperament. After being for two days subjected to some febrile symptoms, she complained, on the third, of a smarting, itching, and, as she expressed herself, tingling, in her tongue, and through the whole inside of her mouth. Her tongue was of a bright red colour, but dry and clean. Next day, there appeared on it a pellucid vesicle, of about an inch long, and near half an inch broad, turgid with a serous fluid, of a faintly yellowish colour. A smaller one, of the same kind, appeared on the inside of the left cheek. The sensation they occasioned, she described as being similar to that which she had experienced before their eruption,

tion, but in a greater degree. Though her febrile symptoms were now abated, yet her pulse was weak, irregular, and about ninety in a minute. In this situation, Dr Dickson directed half a dram of the red Peruvian bark, finely powdered, to be taken every two hours in a goblet of wine and water.

On the fifth day, three vesicles, similar to the former, appeared on her chest and right arm. Her other symptoms were nearly as before, and her medicines were continued. But, on the sixth day, her stomach rejected the bark. Two vesicles appeared on her neck and cheek; her breath was foetid; she had some low delirium; and her pulse was very weak. In this situation, he prescribed a decoction of bark. He directed an ounce of it, having half a dram of vegetable alkali dissolved in it, to be taken every two hours; and, immediately after that, half an ounce of the same decoction, mixed with six drams of lemon juice. On the seventh day, there was little change, and the same medicines were continued. On the eighth, the vesicles on the inside of the mouth, and on the tongue, disappeared; and the cuticle, which had been elevated, was shrivelled, and of a brownish

brownish colour. Deglutition was difficult; and, as she said, painful through the whole inside of her throat. Her pulse was rather stronger. Her medicines were continued.

On the ninth day, the cuticle on the parts formerly occupied by vesicles in the inside of the cheeks, and on the tongue, had cracked, and was peeling off: the parts below appeared raw and sore. Deglutition had now become so painful, that she refused medicine, food, and even drink. She could not bear the slightest pressure on the neck. A new vesicle appeared under the right ear; some purulent matter appeared on the back of the pharynx, the origin of which, however, was not discernible. Her pulse was eighty-six, and nearly of the same strength. In this situation, Dr Dickson prescribed a glyster of warm water; and, after its operation, another of equal parts of Peruvian bark and new milk, which was ordered to be repeated four hours afterwards. At night, he ordered an anodyne glyster, with fifty drops of thebaic tincture; and white liniment was directed to be applied to the sores. By the tenth, the vesicles on the chest and right arm had disappeared; the sores of the tongue
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and cheek were of a darker colour, and seemed to be healing, and her pulse was not so weak ; but some new vesicles appeared on the abdomen. Her medicines were directed to be continued.

Her symptoms, on the eleventh day, continued nearly the same as the day before. The vesicles on the neck and cheek had disappeared, and the cuticle on those parts was shrivelled and cracked. And, on the twelfth, she could swallow, though not without pain. As the injections were not now retained, they were ordered to be omitted, and the bark, in substance, to be repeated.

On the thirteenth day of her disease, she vomited some blood along with the first dose of the bark. The vesicles under the ear, and on the abdomen, had disappeared ; but several small vesicles, not above the size of a pea, arose on the hypogastric region of the abdomen. One was observed on the pudendum, and two on the left thigh. As some bark was retained on her stomach, this medicine was directed to be continued, and an anodyne draught to be taken at night. On the fourteenth, she had some loose stools, mixed with blood ; and

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as she complained of great soreness in her belly, the discharge was promoted by Castor oil. But, on the morning of the fifteenth, she had a natural stool, and her menses appeared. Her medicines were still directed to be continued as before.

From this time she recovered gradually; and, in about a week, had no complaint but weakness. Exercise and country air soon completely reestablished her health.

To the case thus fully stated, Dr Dickson observes, that it would be unnecessary to add any thing by way of comment. He only remarks, that this, as well as all the other precise or well attested instances which he has enumerated, are solitary examples, no two of them having occurred at the same time or place. From this, he concludes that it is not a contagious disease, but that other disorders have sometimes been mistaken for Pemphigus; and that, from thence, or from some preconceived theory, the idea of its contagious nature has arisen.

The nature of this disorder, Dr Dickson observes, appears to vary considerably as to its mildness or malignity. In some instances, as
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in three of the cases Dr Dickson has seen, the symptoms were extremely mild; but in the other three, strong symptoms of putrescency were manifested, and the life of the patient was in great danger.

With respect to the method of cure, he is of opinion, that the general symptoms of weakness, and tendency to putrefaction, obviously point out the proper treatment. When vesicles appear on internal parts, irritation must be guarded against, by opiates, demulcents, and gentle laxatives. Nourishment must be supplied, and Peruvian bark and wine carefully administered.

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Since the publication of the Irish Transactions, Mr Thomas Christie, Member of the Medical and Antiquarian Societies of Edinburgh, has communicated to the public some observations on Pemphigus, in a letter addressed

addressed to Dr Simmons, which is published in the tenth volume of the London Medical Journal. It may not therefore be improper, here to subjoin some account of what is contained in that paper.

Mr Christie, after collecting, from different sources, what is known relative to the history of this disease; after comparing different accounts together, and interspersing these with his own observations, adds the account of a case which occurred at the Westminster General Dispensary in May 1788. And, in order to give a clearer idea of the cutaneous appearance than can be conveyed by words, he has annexed to his description, an elegant coloured engraving of the right arm, on which seven vesicles, in different stages, are represented.

The patient whose case Mr Christie describes, was a servant-maid in the thirtieth year of her age, who was admitted to the Westminster Dispensary under the care of Dr Simmons, on the 17th of May 1788. She had for three months been occasionally subject to sickness at stomach, and headach, attended with a sense of weakness and lassitude. About
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a fortnight before she was admitted at the Dispensary, the sickness had increased, she had become feverish, and some pustules had begun to appear on the fore part of her left arm. At first, they had very nearly the appearance of the small-pox. By degrees, they became larger, and were filled with a watery yellowish liquid. The exertions she was obliged to make at her work, burst them. But, after discharging their contents, they were often filled again in the course of a night: and this process was repeated several times. New ones also appeared; and on the day when Mr Christie first saw her at the Dispensary, she had one vesicle, as large as a nut, on her right shoulder; one at the pit of the stomach; one near the point of the little finger; and about twelve on the arm. They were very sore, and the skin around them was a good deal inflamed. She thought her other complaints had been a little relieved since the eruption began; but she was still weak and feverish; her tongue was whitish, and her pulse 120.

Upon this occasion, three grains of calomel were ordered to be taken at night, and an

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ounce of Glauber's salt in the morning. She continued her attendance occasionally at the Dispensary, for about a month; during which period, the calomel and Glauber's salt, with the addition of a small quantity of emetic tartar, were frequently repeated. Some fresh vesicles at times appeared; but, upon the whole, her disease continued gradually to diminish: and, on the 27th of June, she had an eruption of small pimples, which, Mr Christie thinks, might perhaps be considered as a proof of her disease being cured, as they showed that the specific action of the vessels of the skin was changed. Her pulse was now reduced to 88, and she was free from complaint; but, at her own request, the calomel and Glauber's salt were once more repeated. After this, she took no more medicines; and, on the 4th of August, when she came to the Dispensary to return thanks, she was in a state of perfect health.

As far as Mr Christie could learn, no person in the neighbourhood was affected with pemphigus at the same time with this patient; nor did she communicate it to any other. He

He therefore agrees with Dr Dickson, in thinking that, sometimes, at least, it is not infectious. He observes, however, that the *Pemphigus Helveticus*, described by Dr Langhans, was extremely infectious. And this circumstance, he thinks, may lead us to a new division of the disease, into the two species of *Pemphigus simplex*, and *complicatus*; both of which, but especially the last, seem to vary much with respect to mildness and malignity.

VII.

The History of an Ovarium, wherein were found Teeth, Hair, and Bones. By James Cleghorn, M. B. Vide Transactions of the Royal Irish Academy for 1787.

GENERATION is a subject so mysterious in itself, that any fact which may serve to throw light upon it, cannot be considered as unimportant. Dr Cleghorn is of opinion, that no appearances have tended so much to elucidate this subject, as the formation and growth of foetuses without the womb; and he thinks none are so deserving of particular attention as those which have been formed in the ovarium. He here presents us with a very striking example of this kind, which exhibits several particulars, equally curious and interesting.

Before, however, relating the history of the case, which fell under his own inspection, he states,

states briefly the most remarkable instances of the same kind which have been related by some other authors ; particularly some instances in the Memoirs of the Royal Academy of Sciences of Paris, in the Journal de Medecine, in the Edinburgh Medical Essays, in the writings of Ruysch, Baudeloque, and others. But among all the instances that have been recorded, one of the most extraordinary cases is that, of which he here gives us an account. The first part of this account, did not, indeed, fall under his own observation ; but he had it from authority which he had little reason to doubt. And, after relating the information he received from others, he gives an accurate description of the parts of generation in his own possession, illustrated by an elegant engraving.

The woman who is the subject of this paper, died in the fiftieth year of her age, about ten days after being tapped for a tumour, which was suspected to be a dropical collection in some part of the abdomen. When in health, she was a tall and well made woman ; and she had born a child about twenty-five years before her death. She continued in

good health for several months after her delivery, and nursed the child. While on the breast, it was seized with violent and frequent convulsion fits; but, after some time, it recovered so as to be perfectly healthy. But, from this period, the woman herself was observed to decline in her health, and she continued weak and sickly for a year or more. At last, however, she regained her usual good state of health in every circumstance, excepting that her menses never again appeared, and her belly increased in size as if she had been big with child.

Notwithstanding this appearance of pregnancy, she was known to walk lightly, to labour hard, and her legs were never observed to be œdematous. She appeared, in other respects, to be in perfect health, and never once complained of any uneasiness, excepting the inconvenience of carrying so large a belly. In this state, she remained for upwards of twenty-three years; at which time she was advised to be tapped, and submitted to the operation. Upon withdrawing the canula, a considerable quantity of viscid matter flowed out, mixed with hair and bits of fat. But, in
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place of obtaining any relief, she died ten days after the operation. The gentleman who performed the operation, opened her body after death. Upon cutting into the abdomen, the first thing which presented itself to view, under the peritoneum, was a large seemingly muscular sac, which extended across the abdomen. Upon opening this sac, it was found to contain balls of a fatty substance, mixed with hair, and likewise with several bones. The operator, struck with the singularity of the appearance, cut out entire the bladder, rectum, and uterus with its appendages, together with some portion of the labia pudendi and podex. These parts were given to Dr Cleghorn; and he here presents us with a very particular and accurate account of the appearances. As the nature of our work does not admit of engravings, we cannot convey to the reader the same accurate idea as he would obtain from the original. But we presume, that from the following account, the intelligent reader will have no difficulty in understanding the principal morbid affections which here took place.

The bladder appeared to be of the natural size, and, when laid open, shewed no morbid

affection. The vagina, os tincæ, and uterus, were in a perfectly natural state. On the left side, the Fallopian tube, with the ovarium and other appendages of the uterus, were also in a natural condition. On the right side, the Fallopian tube and round ligament were very evident at the part next the uterus; but, at the other extremity, they were attached to a large bag or cyst, which, there could be no doubt in concluding, was the ovarium of that side enlarged to an immense size. To obtain some idea of the capacity of this bag, Dr Cleghorn endeavoured to fill it with water, and concluded, that it would, if fully distended, hold from ten to twelve quarts. But, upon laying open this cyst, its internal parts were what chiefly deserved notice. A considerable portion of the internal surface was even and smooth; but, at its lower part, it was made very irregular and rough, by a great number of small pouches of different sizes, and several piles of bone.

The contents of these pouches were as various as their size was different. Some contained a gelatinous kind of mucus, while others contained a cretaceous matter. In some,
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he found a brownish black stuff like bone, which had been melted down, and corrupted by putrefaction. In others, the contents resembled fat, and felt like it when rubbed between the fingers. In some were hairs; in others small fragments of bones. Some were attached by small peduncles; others adhered by their coats. The bones were very irregular; nor could it be said that they resembled, in every respect, any one bone of the skeleton, although some of them had a good deal the appearance of being portions of the jaws. One in particular resembled the os maxillare superius, having something like a palate plate, an alveolar process, and having teeth incased in it. There were other bones of considerable size; some round, some flat; but none of them could be likened to any of the bones of the skeleton. They were all covered with a tough, tense white membrane, which adhered very firmly to them, and much resembled the common periostium. This was again covered by a production of the internal coat of the cyst; and, upon feeling the bones through this thick coat, Dr Cleghorn once imagined that the flat ones were ribs, and that the round ones
were

were the skeleton of a foetus's leg and foot, as there was a joint. But, upon laying them bare, he could not discover any resemblance to these bones. As to the teeth, they were perfectly regular in all their parts, having cases and fangs, and being almost all of them encased in an alveolar process and sockets. They were forty-four in number, and the greater part were distinguishable into some of the species. There were eight incisores, three canini, four bicuspides, and sixteen molares; the others were doubtful. Several of them were of the first crop of teeth; while the greater number were evidently such as are found in the jaws of persons of fourteen or fifteen years of age. Sixteen of these teeth were encased in the bone formerly mentioned, resembling the maxilla superior; the others were scattered without order, excepting that it did not happen that teeth of different species were close one to another. But some of the incisores were in so close contact, that their fangs even grew together. In one part of this sac, there was a distinct cell, in which was contained a quantity of hair, resembling the hair of the head, and which was matted

matted into a cake by some matter, probably such as filled the cavity of the sac. Some little tubercles which lay in the sac, were also beset with small hairs.

After giving an accurate account of the particulars of this extraordinary case, Dr Cleg-horn next lays before the reader, two opinions which have been offered with the view of explaining such phænomena. Ruysch, in his *Adversaria Anatomica*, treating of *Atheromata*, delivers it decidedly as his opinion, that tumours of this nature, whether found in the ovarium or not, will give rise to the growth of hair, teeth, and bones. In proof of this, he relates a very uncommon case indeed, of a young man whose body was examined after death, and in whose stomach there was found an *Atheroma*, within which was a bundle of hair like the hair of one's head, and likewise a piece of bone, of an irregular shape, about the size of an almond. There were also four real dentes molares, such as are found in the human jaw; two of these teeth grew together, while two others were separate. But, what was still more astonishing, the thigh of a small African deer was found in the same
sac,

fac, or something exactly resembling it, excepting that its hoof was not cloven, but covered with a nail at its end, like a human finger. In opposition to this case, however, Dr Cleghorn observes, that it is only related by Ruysch on the authority of others. And he, with great justice, adds, that even granting that hairs and bones were really found in Atheroma's of the stomach, it is more probable that these substances were swallowed accidentally, and generated the Atheroma, than that they were generated in such a tumour.

In opposition to the opinion of Ruysch, Dr Cleghorn states another, which is supported by the authority of the sagacious Astruc. In his treatise on the diseases of women, he observes, that besides the common incysted tumours found in the ovaria, as well as in other parts, there is one peculiar species formed there by the putrefaction of embryo's, which have been there conceived, and have perished. When steotomata and atheromata, with bundles of hair in them, are found in the ovaria, he supposes that they have been parts of a foetus which has died there, and that the hairs have continued to grow after its death, as they

they are known to do in dead bodies; and he imagines that teeth may grow in the same manner. It is not however, necessary, Dr Cleghorn thinks, to give the teeth and bones a kind of vegetable growth, such as hair is supposed to have, in order that the teeth should grow even to the maturity of adult bones: he imagines that an inosculation of blood-vessels may take place between the membrane which covers the bones, and the coats of the sac. In this manner, he thinks the bones will be supplied with blood, and will grow. And he considers this opinion as supported by the numerous observations, which prove, that parts of animals which have been separated one from another, and afterwards brought into contact, do frequently unite, and, by their vessels inosculating, have a free circulation of fluids through them.

In the case Dr Cleghorn has described, it would appear that the patient had borne the tumour and its contents for the space of twenty-four years previous to her death. And he thinks it a very curious subject of enquiry, How long Nature will preserve a foetus in its mother's belly, without creating any other inconvenience

convenience than what arises from carrying about the burthen. He quotes several remarkable instances of this kind; particularly one, laid before the Royal Society of London by Dr Middleton, of a woman who carried a child in her belly for sixteen years, and during that time bore four children, all alive.

LIII.

VIII.

Observations et Experiences sur l'Analyse de la Salive du Cheval. Par M. Hapel de la Chênaie, Professeur attaché à l'Ecole Royale veterinaire de Paris. Vide Histoire de la Société Royale de Médecine, Tome IV. 4to, Paris.

IN the essay before us, the author introduces his subject with some observations on saliva in general. Among the animal fluids, there are few, he observes, of greater importance in the œconomy. It is so immediately useful in the function of digestion, that organs of a very considerable size are found for secreting it, in quadrupeds the most distant from the human species. These organs are of themselves of such extent, that physicians have taken the opportunity of establishing evacuations by means of them, which are found to be of great utility.

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As it is from large animals only, that a considerable quantity of this fluid can be collected, Mr Hapel was induced to undertake some experiments with the saliva of the Horse. And he tells us, that Mr Chabert cheerfully agreed to sacrifice a horse to the trials which he proposed to make.

After having laid bare the canal of Steno, he made a longitudinal section in it, similar to that which is made in blood-letting. The saliva was instantly poured forth, even with a jet; but the discharge very soon stopped, and no more could be obtained, but from making the animal eat. On that occasion, it came out afresh; so that, in the space of twenty-four hours, he easily procured twelve ounces. And it was upon such a quantity obtained, for five or six days, that he made the experiments of which an account is here given. By this means, he was able to operate upon pure saliva; which, he observes, is a very different fluid from the saliva found in the mouth, which has been mixed with mucus from the glands and membranes lining that cavity. This difference between saliva immediately obtained from the parotids, and that had from the mouth, is chiefly,

chiefly, he observes, demonstrated by the presence of an ammoniacal salt in the latter, which is not to be found in the former.

He begins, by giving an account of the physical and chemical properties of pure saliva. Pure saliva has a distinctly marked saline taste. To the touch, it has a soapy feel. Its smell, though weak, is disagreeable and peculiar. Its colour is a greenish yellow. When it comes immediately from the gland of the animal, it appears very fluid; but, when kept for a short time, even in a temperate atmosphere, it acquires a thicker consistence, by the evaporation of water. From different experiments with the aréomètre, constructed on the principles of Mr Baumé, and with the hydrostatic balance, Mr Hapel concluded, that it was heavier than distilled water; but, from finding that a phial, which contained an ounce of distilled water, did not weigh so much when filled with saliva, and that the saliva, like oil, swimm'd upon the surface of water, he was led to a different conclusion.

Pure saliva, subjected to the action of the air-pump, did not seem to disengage any air; but, when agitated in the air, it became very

frothy ; and, when afterwards introduced into the receiver of an air-pump, from a very few strokes of the piston, it lost the air which it had acquired by agitation.

Pure saliva, after being for five days exposed to the open air, manifestly obtained a putrid taint ; but, when kept for about six weeks, it was found to be completely dried, under the form of a black earthy substance. Saliva, introduced in a small glass vessel, under the receiver of an air-pump filled with pure air, was not altered for several weeks ; but, at last, putrefaction was manifest. In these experiments, it was never found to shew any acid fermentation prior to putrefaction.

His next set of observations are made on saliva exposed to different degrees of heat, in open and in close vessels. Saliva exposed to heat in a water-bath, soon lost its transparency. A quantity of light flakes were formed in it. These at first swam on the surface, but were afterwards deposited at the bottom of the vessel ; the liquor above them being then extremely fluid. The heat being continued, distillation was produced. The transparent water which was thus obtained,

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was neither alkaline nor acid ; it, however, had a disagreeable taste, and unpleasant smell. But, when it was kept for about fourteen days, it gave out a smell somewhat resembling amber ; a circumstance which Mr Fourcroy had observed of the water obtained by distillation from some other animal substances. From eight ounces of saliva which were employed in this distillation, Mr Hapel obtained seven ounces six drams of water ; and the matter contained in the retort being collected with care, weighed one dram thirty-seven grains. The loss, thirty-five grains, was attributed to the air which had been disengaged during the distillation. The residuum, in this case, resembled mucilage in a dried state ; and, when it was exposed to the air, it attracted humidity.

Having exposed this residuum to the action of a naked fire, in a glass retort, provided with a proper apparatus, he obtained a yellowish-coloured water, highly alkaline, weighing one dram six grains ; a yellowish oil, to the extent of four grains ; six grains of crystallized volatile alkali ; six grains of thick empyreumatic oil ; six grains of inflammable gas

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and aerial acid. A charcoal remained in the retort, weighing eight grains, and retaining the shape of the dried saliva before it was submitted to the action of fire. All these weights taken together, amounted to one dram thirty-six grains; the complete weight of the matter employed in this distillation.

Mr Hapel next treats of the action of water, and of saline matters, upon pure saliva. When put into distilled water, it at first swam on the surface, but, by agitation, seemed to be dissolved in the water; upon which it lost its taste, colour, and consistence. But this solution gave a green colour to tincture of violets. The spirit of wine precipitated from it the coagulated saliva; but the coagulum thus produced, was found to be soluble in water.

The saliva, thrown into boiling water was found to be in part coagulated, and this coagulum was not again soluble in water. Terra ponderosa, calcined magnesia, and lime, separately triturated with saliva, have not disengaged any odour marked with volatile alkali. Fixed caustic alkali, also, produced no smell; but the volatile caustic alkali augmented the fluidity of saliva.

Diluted

Diluted vitriolic acid, poured upon the saliva, produced a coagulum, which was precipitated under the form of a thick pellicle. This precipitate, at first of a yellowish brown, acquired, upon standing, a much deeper colour; and the liquor, filtrated and evaporated, furnished some crystals of Glauber's salt. The nitrous acid rendered the saliva very mucous. The precipitate, which was soon after formed, was of a less deep colour than the former, but acquired also a darker tinge from rest. The marine acid thickened the consistence of saliva; and soon after a quantity of yellowish filaments were precipitated. The acid of spar, united to saliva, rendered it mucous, and produced a brownish precipitate. A solution of the cream of tartar, poured upon saliva, altered its consistence a little, but very slowly; and distilled vinegar produced no sensible alteration whatever. The acid of sugar, poured upon the saliva, rendered it more mucous, and produced a slight precipitation; and the phosphoric acid also thickened it a little.

All these combinations of saliva with the different acids, whether mineral, vegetable, or animal, after being filtrated and evaporated,

furnished different neutral salts, according to the acid employed, but all of them having the fossile alkali for their basis. The coagulum obtained upon each of these combinations of saliva with the acids, furnished, upon distillation, the same principles as the dried saliva. Water did not dissolve them; but the volatile alkali dissolved them completely.

Spirit of wine and æther seem to dissolve a small quantity of saliva; but these liquors soon allow this fluid to precipitate, under the form of a thick mucilage. This mucilage is soluble in water; which shews it to be different from that which is produced by the action of acids. Saliva divides oil, and, in consequence of long agitation, diffuses it in water, in the same manner as mucilage does; a property which fits it for taking out spots of grease from clothes.

These different experiments which Mr Happel has made on saliva, serve, he thinks, to demonstrate, that it is a mucilaginous watery fluid, formed of a proportion of air, oil, and water, of the fixed mineral alkali of sea-salt, and of an insoluble substance, which seems to be of the same nature with the base of the bones. He has not been able to find that

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it contains sal-ammoniac, the existence of which, in saliva, has been asserted by different physiologists; and he believes, that it is only in impure saliva that such a salt is to be met with.

After these observations on saliva obtained from the glands which immediately secrete it, Mr Hapel next relates the experiments which he made on saliva obtained from the mouth of a horse, and mixed with the other fluids of that cavity.

The saline taste of this fluid is very remarkable. It has a more viscid consistence than pure saliva; which, Mr Hapel thinks, is to be attributed to the loss of part of its water, and to its combination with the mucus of the mouth. The tendency which it has to form into a froth, is, he thinks, easily explained, from the soapy quality which has been observed in it. Divided and agitated by the motion of the cheeks, from contact with the atmospheric air, and with the air expired from the lungs, it forms, in the same manner as soap-water, bubbles containing air. From distillations with the water-bath, and on the naked fire, this fluid gives out the same pro-

ducts as pure saliva ; and to air and water, it presents also the same phenomena. But quicklime, and caustic alkali, disengaged from it an odour strongly marked with volatile alkali ; a circumstance by which it is peculiarly distinguished from pure saliva.

This last circumstance, in Mr Hapel's opinion, clearly proves, that the sal-ammoniac of the saliva contained in the mouth, is a constituent only of the mucous fluid furnished by the glandulæ buccales. He has not, however, been able to determine what particular acid is united with the volatile alkali in this ammoniacal salt ; but he expresses a hope of being able to repeat his experiments, and of completing his investigation of saliva. He concludes this essay, by acknowledging great obligations to Mr de Fourcroy ; and with mentioning, that most of his experiments on this subject were made in presence of Mr Chaubert, Director and Inspector-General of the Royal Veterinarian Schools, and Correspondent Member of the Royal Society of Medicine.

IX.

Rapports sur les Vertus Medicales des Lézards du Royaume de Guatimala. Par M. Carrere d'Aubenton, et Mauduyt. Vide Histoire de la Société Royale de Médecine, Tome IV. 4to, Paris.

THE Royal Society of Medicine of Paris directed Mr Carrere to give an account of a Spanish memoir, concerning a specific discovered in the kingdom of Guatimala, for the cure of Cancer and some other frequent diseases, written by Dr Joseph Flores, Member of the University of Guatimala, and published at Madrid in 1782.

This Memoir gives an account of the remarkable efficacy of a reptile in the treatment of different diseases, particularly of Cancer. This reptile, the author styles Lagartija; which, in Spanish, signifies the Lizard, or Female Lizard. He however says, that they
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have given it this name on account of its resemblance to the common lizard; and he distinguishes this animal, also, into male and female. It is chiefly found in the environs of St Cristoval-Amatitan, a village about eight leagues south from Guatemala, the chief town of the province of the same name in South America. The inhabitants of that country, at least, attribute extraordinary medical properties to the reptile found there; although Dr Flores observes, that it is a very common animal in the whole province of Guatemala. He does not give a detail, in his memoir, of any facts which have fallen under his own observation; but he relates cases seen by others, of which he speaks on the most positive information.

He gives, particularly, an account of three cases, in which this remedy was attended with remarkable success. The *first*, is that of an Indian, whose whole body was covered with pustules and ulcers, and who was completely cured, in a few days, by the use of the lizards. This cure was attested to him by Joseph de Eloso, at that time clergyman of St John-Amatitan, and afterwards of one of the churches in Guatemala.

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The subject of the *second* case, was Don Joseph Ferrer, by birth from Catalonia, but an inhabitant of Guatimala. He had been subjected, for the space of an year, to a cancer on the upper lip, which gradually extended round one half of the mouth, to the under lip. It had also extended inwards to the jaw, in consequence of which he had lost four of his teeth. It in time reached the throat, and was very near the carotid; infomuch, that the surgeon who attended, was afraid, every moment, that there would ensue a fatal hæmorrhage. This cancer was highly foetid, and had resisted every remedy that could be thought of. The patient then put himself on the use of lizards, of which he ate three, one every day, for three successive days. On the third day, he felt over his whole body an extraordinary heat, accompanied with a copious sweat. There took place, at the same time, a salivation of a thick yellowish-coloured fluid. The foetid smell of the ulcers gradually diminished. These circumstances, however, naturally encouraged him to continue the use of the lizards; and, for five days more, he took one daily. In a few days, the salivation ceased, the wound became
clean,

clean, assumed a good colour, and, in no long time, was so completely cicatrized, that there hardly remained a vestige of it. This cure was also performed under the inspection of Don Joseph de Eloso, and of Don Nicolas Verdiego, a surgeon.

The *third* patient whose case is mentioned, was, Don Charles Sancier, parson of the church of St Sebastian in Guatemala. This priest had been affected, for more than thirty years, with a cancer on his nose; which, however, for some time, had made no progress. Three lizards, one of which he ate daily, were found to be sufficient for accomplishing a complete cure. He also felt the same symptoms as were mentioned in the preceding case, heat, sweating, and salivation.

The author affirms, that the inhabitants of St Cristoval-Amatitan, and of St John-Amatitan, have for a long time used this remedy in similar cases, with the greatest success. They are ignorant of the origin of this remedy; they only know, by tradition, that it was first employed by an inhabitant of Isaclo, a town in the district of Sonsonale, in New Spain.

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The author *next* relates the method in which this remedy is employed by the Indians. This method is very simple, but at the same time very disagreeable. They cut off the head and tail of the animal, take out its intrails, skin it, chew it, and swallow it directly, while still bloody, warm, and in some degree alive. They take one in this manner daily. One is sometimes sufficient for a cure; and, when this is not the case, they go on to three. This method may be imitated in a manner less disagreeable, with equal success. The head and tail of the animal being cut off, the bowels taken out, and the skin removed, the flesh and bones are cut down, formed into pills, and inclosed in a wafer. Each lagartija will make two pills about the size of a musket bullet. In this state, they may be swallowed without any disgust.

After this, the author gives a description of the reptile employed. It is represented as being eight or ten inches long, and about half an inch thick. It is covered with triangular scales, the points of which are turned to the tail. Some of them are of a changing colour, between yellow and green; others of a clear brown,

brown, with spots. The author believes, that the first are females, because they have a larger belly than the latter. They are very nimble, and form their nests in chinks of the earth, of trees, and of rocks. They live chiefly on a species of scarabæus; but they are very fond of flies and of bees, insomuch, that they will very soon thin a swarm, by taking the bees one after another. When they are of small size, they sometimes enter into the hives, and suck the honey. They are not venomous: when they are irritated they bite the fingers, but no inconvenience is ever observed to result from this.

The author terminates his work, with some reflections, tending to shew the similarity between the Lagartijas and Mercury. He thinks he can discover, in the effects produced by these animals, in the sweating and salivation which they excite, a proof that they are of equal utility with that mineral, without being productive of the same inconvenience, or requiring the same cautions. He concludes, that these animals will probably be found to afford an excellent vermifuge, an antihydrophobic remedy, and a specific against the venereal

nereal disease. And he mentions his intention of making experiments on these subjects in the hospital of Guatemala.

To this treatise, is subjoined an anonymous letter from Mexico, containing two observations of cures performed by means of this animal; and which serve to shew, that the lagartijas of Mexico have the same virtues with those of St Cristoval-Amatitan. The first of these, is the case of a monk, belonging to the convent of St Diego in Mexico, in the sixty-third year of his age, who had for a long time been afflicted with a cancerous ulcer on his tongue. It had gradually increased to such a degree towards the root of that organ, that he was every moment afraid it would drop off. He was incapable of speaking, being able only to utter sounds, which it was almost impossible to comprehend. He could swallow no solid food; and even milk and broth could not be got over without great difficulty. The wound gave out such a foetid smell, that it was very perceptible as soon as any one opened the door of his chamber. His pulse was very weak; and, in fine, his death was expected every instant.

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When in this situation, he took one lagartija in two pills, which he had very great difficulty in getting over. He continued them for the four following days successively. From the first day, he felt an extraordinary heat in his whole body, and experienced such a change in his situation, that the next day he swallowed the pills without any uneasiness, and spoke with much less difficulty. A salivation then began in small quantity, but of a yellow colour; and the sweating did not commence till the fourth day. At the time this letter was written, which was on the fifth day of the treatment, the foetid smell was gone, the ulcer had a much more beautiful appearance, and was less extended; the swelling was disengaged, the pulse was stronger, the patient spoke with ease, and swallowed, without difficulty, solid aliments. He had regained his cheerfulness and strength. He was in a condition to walk about in the infirmary, and was even desirous of walking in the garden.

The second case, is that of a poor woman, whose face had become hideous, by a great number of scabs and scales with which it was covered. She took one lagartija for three days

days successively; and, at the end of that time, this letter was written. Her face had then recovered almost its natural colour; the scabs had all fallen off, excepting one upon her nose. She had experienced, like the other patients, a great degree of heat, but neither sweating nor salivation. She had, however, an abundant evacuation of very acrid and foetid urine.

Mr Carrere, after giving the above account of the memoir of Dr Flores, subjoins to it a few remarks. He observes, that the method of exhibiting this remedy, seems to render it impracticable to try it in Europe, as the animal was to be swallowed while yet warm, and almost alive. It would therefore be, he thinks, desirable, if some particular preparation could be found of this animal, which might be transported into other climates. And he also thinks, that this remedy should, without delay, be tried in many other diseases.

To this report by Mr Carrere, there is subjoined another by Mess. d'Aubenton and Mauduyt. The Spanish physicians, in Europe, having used lizards in the treatment of diseases of the skin, and of cancers, and deriv-

ed from them some good effects, the Royal Society of Paris were themselves desirous of making some experiments for determining the efficacy of this remedy. They wished, therefore, particularly to know the precise species of lizard which had been, in Spain, substituted to the lagartijas of Guatemala. The Count de Vergennes, who joined to many other qualities a lively zeal for the progress of science, procured some of these lizards from Spain, which were put into the hands of Mess. d'Aubenton and Mauduyt.

Upon comparing these with the ordinary lizards of the gardens of Paris, and which lurk in holes and rents of the walls, they could find only a very slight difference in the spots upon their backs; and this difference, they think, is owing probably to the influence of a more warm climate. It may also, perhaps, they observe, depend on the age and circumstances under which the lizards were found. But they cannot positively determine, whether the lizards used at Madrid be precisely the same with those about Paris, or whether there be a slight variety. This last opinion seems to them the most probable; since a country, so different as Spain is from France, is sufficient

cient to produce all the variety discoverable. They therefore recommend a trial of the lizards found in France, for the cure of those diseases in which they have been used at Guatimala and Madrid ; remarking only, that the animal, produced in a less warm climate, will probably require to be given in larger doses, and continued for a longer time.

How far the experience of others will confirm those advantages said to be derived from the use of lizards, either in South America or in Spain, we will not take it upon us to affirm. If, however, the cases above alluded to be fairly represented, there can, we think, be hardly any room for deception, as the cure succeeded the remedy in so very short a space of time, and in diseases, too, before, of very long standing, which, when admitting of a natural cure, disappear only in a very gradual manner. But we must also confess, that the suddenness with which cures are said to have been performed, leads us to entertain some doubt with regard to the truth of the relation. Our readers may remember, that in a former volume of these Commentaries, (Vol. IX. p. 478.), we gave an account of the efficacy

of the lizard in the West Indies, employed for the cure of cancer, venereal eruptions, &c. That account was extracted from the St Christopher's Gazette; but we have not heard from any practitioner, either in that, or any of the neighbouring islands, that this remedy has, since that time, been employed there with advantage.

Dr Cullen, in his late valuable treatise on the *Materia Medica*, has not indeed taken any notice of the medical properties which have lately been attributed to the Lizard; but, in treating of aliments, of which, in our opinion, he has given by much the most complete and scientific view which is any where to be met with, he has arranged the lizard, among the other aliments taken from the class of Amphibia, with the tortoise, the frog, and the serpent. And he observes, that although the lizard be employed in the West Indies, we are here little acquainted with its medical qualities. But he thinks we may reasonably suppose, that its qualities will be much the same with those of the other reptiles. It is, however, well known, that the serpent tribe has been highly recommended by even the earliest medical writers,

writers, as a most efficacious remedy against obstinate ulcers, and inveterate cutaneous diseases. We have the authority of Pliny, for their being successfully employed by Antonius Musa, the physician to Augustus, in the cure of obstinate ulcers, which had resisted every other remedy. They were employed under the form of viper broth ; and, under this form, they are still highly recommended by some modern practitioners, especially in affections of the leprous kind.

X.

Observations sur la Necrose. Par M. Bouffelin, Docteur en Médecine, Chirurgien-Major des Armées de sa Majesté le Roi de Pologne, Correspondant de la Société à Kaminiéc en Podolie. Vide Histoire de la Société Royale de Médecine, Tome IV. 4to, Paris.

THE disease which is the subject of this memoir, is represented as one of the most curious and important points which has occupied the attention of modern surgeons. It is alleged, that in the different bones of the human body, particularly in the long bones, such as the tibia, the femur, and the humerus, a portion more or less considerable of the bony cylinder, may become dead, as is observed in soft parts, affected with what is called the dry gangrene.

In these cases, nature brings about a separation of the dead from the living part. The whole

whole portion of the bony cylinder, deprived of vital motion, detaches itself to a larger or smaller extent; so that, in some cases, there remain only the epiphyses and articular extremities: and, at the same time, there is regenerated, by the effusion of a real osseous juice, for which the periostium serves as a mould, a substance truly of a bony nature, which, taking the same form with the dead bone, and detaching it, envelopes it on all parts, and retains it loose in its cavity. In these cases, the regenerated bone unites in such a manner with the extremities of the primitive bone, that the limb loses nothing of its ordinary form, length, or solidity. The muscles and tendons lose nothing of their insertion and support; and, in fine, the functions of the membrane are in no degree affected, but continue as entire and perfect as ever.

This disease, Mr Bouffelin thinks, has been known only since the days of Ruysch, who describes it in his *Observations d'Anatomie et Chirurgie*, published in 1691. Since that time, different publications have taken place with respect to it, in the *Memoirs of the Royal Academy of Surgery*, in the *Edinburgh*

Medical Essays, and in the writings of Meckren, Chopart, David, and others. But, attention more particularly excited to this subject, has given place, during a more recent period, to new discoveries, and to the collection of practical knowledge with respect to this affection. Mr Troja has taught us, by ingenious experiments, that we may, at pleasure, produce this disease in the long bones, by destroying the medullary membrane. This destruction may be accomplished, by introducing into it a flexible stylet, at an opening made through any part of a bone that we wish to destroy. And these observations afford a more decisive proof, because we can destroy one portion only of the bony cylinder, by acting upon that portion of the medullary membrane which corresponds to it.

Although these facts demonstrate clearly, that it is the periostium itself which becomes bone, when the medullary membrane has been destroyed; yet they do not confirm, as might at first be imagined, the sentiments of Mr Duhamel, who alleges that this membrane is the source of ossification, by means of its internal layers. In the beginning
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of this disease, the new bone formed by the periostium is very soft, and may be cut with the greatest ease ; but, in the end, it acquires a hardness even more considerable than the other bones : a matter of consequence in the cure.

Nature herself often produces the same disease which Mr Troja has produced at pleasure ; and, in all probability, she likewise effects this by the destruction of the medullary membrane. Our author thinks he may assert, that this is often the case ; since, during his stay at the hospital of Lyons for two years, he had an opportunity of seeing at least a dozen of patients affected with this disease : and Mr David has made the same observation.

Of the twelve cases which have occurred to Mr Bouffelin, eight were in the tibia, and four in the femur. And, what may be represented as singular, all the patients were between the thirteenth and twentieth year of their age, excepting two, who had passed their thirtieth year ; from which it may be presumed, that this disease is most common with young people ; and that the inferior extremities, particularly the tibia, are most frequently
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affected with it. The disease being thus common, it seems to our author surprising, that it has not more claimed the attention of medical practitioners: And he is of opinion, that the practice in this disease has not made an equal progress with the theory. He here presents us with several cases of this affection; which confirm the experiments of Mr Troja; which point out the proper mode of treatment; and which mark those instances of the affection which ought to be left to the course of nature.

The first case here related, is that of a young man in the eighteenth year of his age, who was admitted into the hospital of Lyons in April 1781, for several ulcers in his leg. These were accompanied with a very itchy feeling, and with a swelling through the whole length of the leg; which, however, was confined to the course of the tibia. Rest, diet, and regular dressing, soon procured the removal of the escars. When these had fallen off, a fistulous passage was perceived, about the upper third of the tibia, and which led to the centre of the bone.

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From the questions which were put to the patient, it was found that his disease was of eighteen months standing; that it had begun with severe pain in the limb, which was followed by a swelling of the soft parts. Redness came on a few days after this swelling; and several abscesses were formed, which soon passed into the state of ulcers, discharging a considerable quantity of pus, by which the pain was relieved, and the swelling diminished. Some of these ulcers, after having discharged a white pus, with small pieces of bone, for five or six months, were cicatrized; while others, at a different part of the leg, remained open. And these new ulcers also gave opportunity to a discharge of pus, and of small bits of bone, which presented themselves at the fistulous openings.

The limb, at the commencement of this disease, was very weak, and could not support the weight of the body; but, in proportion to the continuance of the disease, the swelling augmented solely in the course of the tibia, and the limb acquired more strength. The patient, however, had passed four months without being able to use it. But, from that time,
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he was gradually able to walk better ; and, when he came to the hospital, he could use it almost as well as the other.

After the patient came to be in a proper condition, Mr Bouchet, the chief surgeon, operated upon this limb. He began, by removing an oval flap, about three inches and a half in length, and about an inch and a half in breadth. This flap comprehended several ulcers, which existed about the upper third of the tibia, and at its anterior part. He then, with a small convex saw, cut into the inferior and superior parts of the bone, which was laid bare to the depth of five or six lines ; and afterwards, with a gouge and mallet, he raised the interval between the two sawings ; which was not accomplished without great difficulty, on account of the remarkable hardness of the bone. This piece being removed, no cavity could be discovered below, excepting at the place where the fistulous cavity was, which penetrated still deeper.

The operator now determined to remove a farther portion of bone at the place of this passage, that he might come more speedily at the seat of the disease. This, however, he did

he did not accomplish without a great deal of trouble, notwithstanding his remarkable dexterity. After having reached the cavity of the bone, however, he found that it contained a separate piece of bone; which, when removed, measured three quarters of an inch in length, and four lines in breadth. It was so thin as to be transparent. This, our author thinks, was clearly a small portion of the tibia, which had resisted the solvent power of pus.

About the third or fourth day after this operation, the patient had a slight fever, which however yielded to antiphlogistic regimen. The first dressings were removed on the fifth day; and as the ulcer was then very sensible, with some degree of inflammation, it was dressed for some days with a mild digestive; but, after that, it was dressed with dry charpie, covered with a pledgit of ointment: and it was touched every three or four days, according to the appearance of the flesh, with caustic.

After continuing this treatment for the space of fifteen days, and finding that the cavity which had inclosed the loose bone was not diminished, he was led to examine that cavity with a sound; and finding a loose portion,

tion, he drew it out with pincers, and discovered it to be a compact piece of the old bone. After this, the progress to recovery was rapid; and, at the end of six months after his admission into the hospital, it was almost completely healed. But, as he became tired of the hospital, he left it before he had a complete recovery. In this case, from the extent of the swelling of the bone, and from the ulcers which were manifest above it, Mr Bouffelin conjectures, that the Necrosis had here extended through one half of the tibia, from its upper to its under quarter.

The second case which our author describes, is that of a girl about thirteen years old, treated at the same hospital. At the time of her admission, she had, after formerly enjoying good health, been affected for a year with several ulcers on the left leg, and with fistulous passages to the tibia, which was larger than its natural size. He could not learn, by any inquiries, how her disease began. The ulcers, to the number of five, were situated on the fore part of the limb, nearer the top than the bottom. Upon sounding them, he could not find any passage into the cavity of
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the bone; and they discharged pus, apparently of a good quality. Several scars were perceptible on the leg, which had formerly been ulcers, and from which, according to the account of the patient, bones had been discharged. The extent of the disease, in this case, prevented an operation; but, in consequence of the attention bestowed for two months, during which time she remained in the hospital, two ulcers were cicatrized, after which she was sent out; and she could then use her limb much more easily than formerly. Although Mr Bouffelin could not here penetrate into the centre of the bone, yet he thinks there can be little doubt that it was a real Necrosis; and he is persuaded, that, in time, it would admit of a complete natural recovery.

Besides these, six other cases of the same disease are related; which, although differing from the others in some particulars, it is perhaps unnecessary for us to detail. It is sufficient to observe, that all of them were distinctly marked instances of this affection; and that some of them admitted of a natural, others of an artificial cure. After relating these, Mr Bouffelin concludes this memoir with
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some practical conclusions, which he imagines may be drawn from them.

Three essential points are here, he thinks, to be considered; the diagnostic, the prognostic, and the cure. The diagnostic is, in his opinion, to be established from the following particulars: From the information which is obtained by a probe introduced into the cavity of the bone, where a loose and moveable part is felt; from the age of the patient; from the situation of the fistulous ulcers; from the discharge of pus, the quantity of which cannot be augmented by compression of the parts in the neighbourhood of the ulcers; from the discharge of splinters of bone at these ulcers, which happens when they are small, and light enough to be carried out by suppuration; from a knowledge of the cause of the disease; from the seat of the pain; from the tumefaction of the limb; and lastly, from the continuance of the disease, without, in general, producing great weakness.

Mr Bouffelin observes, that in most instances of this disease, one is astonished to see the pus of so good a quality, and that the quantity of the discharge does not weaken the patient. These circumstances,

circumstances, he thinks, tend to prove, that nature, in time, will triumph over the disease, which is not usually the case in instances of caries; for that disease almost always requires the assistance of art; whereas, in the necrosis, the efforts of nature are often sufficient.

If the piece of bone separated, be very large, either in length or breadth, the recovery, when it is left to nature, will be more tedious. The same will also be the case when the disease occurs with those advanced in life; as, from the greater hardness of the bones, they will require a longer time for being dissolved. The longer the disease has lasted, other circumstances being equal, the more nature has already laboured for the destruction of the cause of disease, and the less there remains of the volume of foreign matter which is to be destroyed.

With regard to the cure, it may be conducted upon two general principles; either by leaving it to the course of nature, or by employing the assistance of art. But, although art furnishes efficacious means against this complaint, those to which nature has recourse, with the view of surmounting it, are not less

to be admired. Nature, it is true, in this case, operates more slowly than art; but its operation is as sure, and it produces a cure without any accident. It brings about a solution of the separated bone, in a longer or shorter time. In some instances, six or eight months will be sufficient; sometimes an year or two, or even more. Pus, separated in too great quantity, irritates the soft parts, and produces abscesses; from whence result ulcers, which afford an outlet not only for the fluids, but also for small fragments of bone, till the separated parts be destroyed and discharged; after which, the ulcers either heal of themselves, or easily yield to gentle treatment.

If the disease be of long standing, and the suppuration not very abundant; if numerous splinters have been discharged; if the regenerated bone be very solid, and thicker than in its natural state, there is reason to hope that the separated part is dissolved, or that there remains but little of it; and that, therefore, nature alone will accomplish its complete expulsion. Those cases, also, where the disease is very far extended, where it would be necessary to produce a great destruction of substance, which

which might give rise to an habitual ulcer, are to be left to the course of nature, particularly when they occur in young subjects, because their bones, not having yet acquired full solidity, are more easily dissolved by the pus. In some of these cases, a question has been started, Whether advantage might not be derived from the injection of acid liquors? But our author thinks, there is reason to fear these injections would restrain the pus, which may be viewed as the natural solvent, and which he considers as the best.

Although, however, Nature does thus much, all cases are not to be abandoned to her. Mr Bouffelin even thinks, that, in the beginning of the disease, it would be advantageous to operate upon all of them. At that time, the new bone formed by the periostium, hardly covers the separated part; and it leaves openings, by which, without any considerable enlargement, the portion of bone inclosed may be extracted. The new bone is at that time so soft, that it may be cut with the greatest ease. By this plan, the great length of the disease, always disagreeable, and sometimes dangerous, may be avoided, and the cure

greatly accelerated. But, at the same time, the operator ought to be assured, that the separated part of bone is moveable : for time must be given to nature to separate all that is not alive ; and the admirable mechanism by which she endeavours to reproduce a new bone, to supply the want of the old one, should not be disturbed ; which, however, will certainly be done by premature operation. The proper time for operation, is known by the good quality of the pus ; by the skin which covers the bone being free from inflammation ; and by the solidity of the membrane, which is the principal symptom.

Mr Bouffelin does not think it necessary particularly to describe the manner of operation, because it varies according to circumstances. It is, he thinks, sufficient to observe, that the affected part is to be brought into full view, either by making an incision in the soft parts, or by removing them ; and that an opening is to be made in the bone itself, comprehending all the sinuses which penetrate its substance. This opening must also be proportioned to the size of the separated piece of bone. When the necrosis takes place in a
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bone much surrounded by soft parts, these are not to be spared. Muscles may even be cut across, if that be necessary, to discover the seat of the disease. But when the disease is seated in the tibia, as much skin must be saved as possible; for, without this precaution, an habitual ulcer may be produced, as inconvenient as the disease for which the operation was performed.

XL

Reflexions sur les effets de l'éther vitriolique, et de l'éther nitreux, dans l'économie animale. Par M. de Lavoisier. Vide Histoire de la Société Royale de Médecine, tome IV. 4to, Paris.

IT is, Mr Lavoisier observes, a known fact, that all fluids, and probably volatile bodies in general, by means of certain degrees of heat, pass from the state of liquid to that of elasticity; and are transformed into elastic aeriform fluids, with all the physical properties of air, but without its chemical properties. This change happens from a determined degree of heat applied to each. Thus it happens to vitriolic æther at thirty-two degrees of Reaumur's thermometer; to spirit of wine at sixty-six degrees; and to water at eighty.

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By means of a pneumato-chemical apparatus, Mr Lavoisier transformed a portion of vitriolic æther into an inflammable air, with which he filled several glass vessels. The æther thus converted into a vapour, was found to possess all the principal properties of the inflammable air of marshes, or of that which is obtained from metals on their dissolution by acids. Like these, it is neither inflammable nor combustible, as long as it remains alone, and is contained in a close vessel. It burns only when in contact with atmospheric air. If, with this air, two parts of atmospheric air be combined, a permanently elastic fluid is formed, which is not condensed by cold, but which has the property of detonation when it approaches an inflamed body. This permanence is the same, when, in place of atmospheric air, dephlogisticated air is employed, in the proportion of one part to two of the inflammable air of æther; but the detonation is much stronger.

Nitrous æther, he observes, presents all the same phænomena with an inferior degree of the thermometer. But, as it is difficult to procure nitrous æther always exactly the same,

the degree of heat is variable, according to variations in the æther employed.

Without entering into a detail of many other curious experiments made with æther converted into inflammable air, the author next proceeds to enquire, how those already related throw light upon the manner in which æther acts in the animal œconomy. Since it is found that this substance is volatilized at a degree of heat lower than that of the internal parts of the body, it follows, he observes, that, when introduced into the stomach, it must pass from the state of liquid to that of gas, and be transformed into an inflammable air. Besides this, as it is difficult to conceive that the stomach will not possess some portion of atmospheric air, there must result from this mixture, a permanently elastic fluid, which cannot be more condensed by a degree of heat even much below thirty-two of Reaumur.

By this means, in cases where the stomach, either from the fermentation of those fluids destined for digestion, or from the use of fermenting drinks, is filled with elastic, gaseous, or mephitic fluids, such as fixed air, or any other, he considers the vitriolic æther, but
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but still more the nitrous, as a certain means of expelling them. It is, he thinks, unquestionably on this account, that æther is an efficacious remedy in some species of megrim, particularly in those headaches which arise from bad digestion. It will, he imagines, also produce similar effects in cases of drunkenness, and in all those cases in general, where the fermentation of fluids, either in the stomach, or in other neighbouring parts of the intestinal canal, has filled those viscera with mephitic exhalations.

Another property of æther, is that of producing a considerable sense of coldness in all surrounding bodies at the instant of its being transformed into an elastic aeriform fluid. If, therefore, from any cause whatever, there should take place a considerable degree of heat in the stomach, Mr Lavoisier thinks, that æther will necessarily be a very proper remedy for cooling and settling it. And he supposes it is from this property, that it derives the sedative effects which have been attributed to it.

From these reflections, the author is led to make some observations on the manner of administering

ministering æther. He thinks it would be an easy matter to make it appear, that it is often better to employ it in small doses, frequently repeated, than to take a large quantity at once. Supposing, for example, the stomach of a patient to be filled with fixed air, as is the case in instances of drunkenness, or at least in certain instances of it; if the first dose of æther which has been administered, has been such, that there has not arisen from it a volume of inflammable air equal to the capacity of the stomach, that viscus cannot, by this means, be freed from all the mephitic elastic fluid which exists there. It is, on the contrary, evident, that there must remain in the stomach, a mixture of fixed air, and of the inflammable air of æther. In such cases, it will only be after the third or fourth dose of æther, that we can consider the stomach as cleaned.

Mr Lavoisier observes, that from this reasoning, an objection may naturally be started against the use of æther. It may be alleged, that in administering æther in the manner mentioned, to a patient whose stomach has been loaded with a pernicious elastic fluid, we only substitute one elastic fluid to another; and it remains

remains to be proved, that the inflammable air of æther is more salutary than that which before existed in the stomach. To this he answers, that the inflammable air of æther is capable of being absorbed by water and other watery fluids; from which it follows, that at the end of a longer or shorter interval, all the inflammable air of æther will of course disappear, and be combined with the fluids which it meets in the stomach.

How far our readers will be disposed to adopt these conjectures of Mr Lavoisier, respecting the action of æther, we will not pretend to say. We must own, that, to us, his reasoning upon this subject appears liable to many objections. Æther is well known to produce very considerable effects when applied to different sensible parts of the surface of the body; as, for example, to the forehead in instances of headach. May we not therefore conclude, that its effects, when acting upon a part so highly sensible as the stomach, will be much more considerable, both upon that viscus itself, and upon the system in general, independently of the generation of any elastic vapour, or of the sense of cold which its evaporation produces?

produces? But, allowing that there are other principles upon which æther, taken into the stomach, may be supposed to act still more powerfully than in the ways which he imagines; yet still, not only the reputation of the author, but the ingenuity of the thought itself, is sufficient to recommend it to serious consideration.

XII.

XII.

An Enquiry into the Small-Pox, Medical and Political; wherein a successful Method of treating that Disease is proposed; the Cause of Pits explained; and the Method of their Prevention pointed out. With an Appendix, representing the Present State of the Small-Pox. By Robert Walker, M. D. Fellow of the Royal College of Surgeons, Edinburgh. 8vo, London.

NOTWITHSTANDING the astonishing improvements lately introduced in the treatment of small-pox, when communicated by inoculation, and for which we are particularly indebted to Mr Sutton; yet it is a melancholy fact, that the mortality occasioned by this disease, even in Britain, is not diminished. The improvements made in the treatment of the disease, when communicated in the natural way, or, to speak more properly, by accidental contagion, have borne no proportion

proportion to those by which the practice of inoculation, or the communication of the disease by intentional contagion, has been rendered more successful. The reduction of deaths, however, occurring in the latter of these ways, is one of the chief objects of this inquiry. And, as there is but little reason to flatter ourselves with the hope, that mankind will soon be induced universally to adopt the practice of inoculation, this subject, it must be allowed, well merits particular attention; and such attention the learned author here bestows upon it.

This elaborate treatise is introduced with some account of the opinions concerning the origin of the Small-Pox. Dr Walker seems to agree with those who suppose, that this disease was brought into Egypt by the Arabians, about the year 572 after the birth of Christ; but, with Dr Friend and Mr Holwell, he thinks it probable, that the Arabians derived this infection from some more distant regions of the East. This opinion, he thinks, receives additional credit from the similarity of practice, in the cure of this disease, observed by the Bramins of India, and the Arabians; particularly

particularly their constant attention to puncturing the pustules, which, he thinks, it is probable, the latter derived from the former.

Notwithstanding the arguments of Dr Thomson and others, to which very satisfactory answers are here given, our author considers it as a self-evident fact, that the remote cause of small-pox is contagion. Of the properties of this contagion, he thinks it evident, that our information must be entirely derived from its common and obvious effects upon the human body. From observing, that it produces no pernicious effect upon those who, from having formerly had the disease, are not again susceptible of it, he concludes, that it is not possessed of the virulent and deliterious qualities ascribed to it by some physicians. He thinks, that the practice of inoculation, in which we see inflammation to be the first obvious effect, shews it to be possessed of an inflammatory principle. But as simple inflammation never proves contagious, and as the variolous contagion is an animal production, constantly attended with a peculiar fœtor, he is led to view the inflammatory principle of small-pox as possessing somewhat of a septic quality. But
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at the same time, he observes, that he employs the term septic, only for want of any other that can better convey his meaning. He mentions, however, several remarkable facts, and relates several experiments, by which this idea of an inflammatory-septic principle is corroborated.

Dr Walker next endeavours, from the obvious effects of the variolous contagion, to deduce its action on the fluids. As we plainly see an accumulation of contagious particles generated in the blood, we may, he thinks, conclude, that its action is that of a ferment; by which he understands, that it assimilates a portion of some of the constituent parts of the blood to its own nature. With much judgment and ingenuity, he combats the opinions of Dr Milman and others, who hold different theories on the subject.

After this, he endeavours to shew, that different quantities of this contagious ichor are generated in the system, in different kinds of small-pox. He contends, that the whole quantity generated, is not determined to the skin in the form of pustules. The finer parts of the assimilated fluids, pass off, he thinks, by
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the cutaneous pores, while the more gross particles are detained in the mouth of the excretory ducts, and, from their stimulant nature, produce the primary inflammation which occurs in every pimple. And he thinks, that upon this ground, we may explain the reason why the variolous pustules do not invade the viscera and internal parts.

Dr Walker next makes some remarks on the necessity of predisposition, for the occurrence of this infection. The two diatheses which he considers as the most powerful occasional causes towards the reception of the variolous contagion, are, an excess of the red particles of the blood, and of the coagulable lymph, on the one hand; and a resolution of the red particles, with attenuation of the coagulable lymph, on the other. From his observations on the occasional and predisposing causes, he concludes the proximate cause to consist in the blood, in consequence of the action of the variolous ferment, during the stage of fermentation, being more or less assimilated, and the contagious particles accumulated in the system.

In treating of the history of small-pox, to which Dr Walker next proceeds, he passes over the mildest form of the disease, or *discreta benigna*, as they have been called, supposing these to be well known; but he furnishes us with a very accurate account of the other most remarkable varieties, particularly of the contiguous, the simple confluent, the putrid, and the crystalline.

After this view of the theory of the disease, the author next proceeds to treat of the practice. The leading indications of cure, he endeavours to deduce from the histories of the disease, and the opinions delivered with respect to its nature. The indication which he lays down, in the first stage, is to prevent, as much as possible, too great an assimilation of the variolous ferment, which is chiefly to be fulfilled by avoiding animal food, wines, and every thing of a heating nature; by a cooling and vegetable diet, and the like. Where inflammatory symptoms prevail, it must, he observes, be the business of a practitioner to moderate the inflammatory fever, and to diminish the excess of the contagious fluids. We cannot here propose to give even an abridged
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view of the judicious directions which he delivers on these subjects. But we may observe, that although Dr Walker be a very strong advocate for the advantages of the cool regimen in the benign kinds of small-pox; yet repeated disappointments led him to despair of success, by this means, in bad small-pox. From attending to the effects of natural diarrhœa, he was led, in all cases where the symptoms indicated an extensive assimilation, and highly inflammatory disease, to employ early purging. And although he considers the use of purgatives, either in inoculated small-pox, or in the mild disease by accidental infection, as not only unnecessary, but even hurtful; yet he found, that in bad cases, by artificial discharges in this manner, the immediate irritating cause of all the eruptive symptoms was gradually reduced; of consequence, these symptoms were moderated, and a determination of a considerable quantity of contagious fluids prevented from rushing both to the head and surface. But as many physicians have been long under a rooted prejudice against early purging in small-pox, he here bestows great pains in giving full and satisfactory answers to the most

material objections which have been made to this practice.

After the inflammatory, Dr Walker next considers the treatment of the putrid small-pox. These are commonly ushered in by an inflammatory fever. When all the symptoms of this fever run high, the patient cannot suffer much, Dr Walker thinks, from bleeding, while the pulse keeps firm. And where, after this evacuation, the pulse retains its strength and firmness, nothing, he observes, contraindicates the exhibition of a gentle purgative. But, where the disease commences with typhus, bleeding is hurtful; and the indications are, to check the putrescent tendency of the fluids, by supporting the *vis vitæ*; and to diminish the excess of contagious matters in the system, by promoting the diarrhoea. Of the particular practices, however, which he recommends with these intentions, we cannot pretend to speak.

Dr Walker next treats of the method of cure in the crystalline small-pox. When an inflammatory fever appears in the commencement of the disease, we are obliged, he observes, to follow the antiphlogistic course.

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But inflammatory symptoms, though apparently violent for a few days, have frequently a perfect remission with the complete eruption of pustules, upon which the pulse becomes feeble and depressed, with much anxiety. When the fever thus changes to the low kind, instead of pursuing the cold regimen, the *vis vitæ* must be supported with wine and other cordials. And, as Dr Walker thinks that the assimilation of fluids is not so extensive in this kind, as in many others, he is of opinion there is less occasion for much purging. Here, a chief indication in the treatment, is meliorating the pellucid ichor in the pustules. For this purpose, he strongly recommends the use of the Peruvian bark; and here, as well as in the putrid small-pox, the disease is often attended with petechiæ, maculæ, and vibices.

After considering the treatment of different species, as they may be called, of small-pox, Dr Walker next proceeds to the treatment of particular symptoms.

After many judicious remarks on the swelling of the face, hands, and fauces; on Cephalagia, Delirium, Coma, Phrenitis, Angina, Dyspnoea, Pain in the region of the Stomach,

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Lumbago,

Lumbago, Swelling of the hands, Suppression of urine, and Convulsive fits; he offers some remarks on the use and abuse of opiates. In every species of small-pox, where all the symptoms are violent, with a numerous eruption of pustules, whether of the contiguous, confluent, or other kinds, where there are clear indications of an extensive fermentation, Dr Walker considers the exhibition of opiates to be highly pernicious. He thinks there is no leading indication for administering opiates in small-pox, unless where the evacuant course is improper. They may likewise, he thinks, be used in every case as a powerful cordial, and where the *vis vitæ* appears to fail.

Dr Walker next proceeds to treat of the secondary fever. In considering this subject, after pointing out the causes assigned for this fever, by some of the best writers on small-pox, and offering his objections to these, he attempts to point out its origin. To him, it seems to be the existence of the same cause which at first excited the fever of eruption, and which supports, more or less, the same fever, after the eruption is completed, in all
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the worst kinds of small-pox, that gives rise to this fever, *viz.* an excess of contagious fluids still remaining in the system. A slow discharge, or total suppression of the ptyalism, may also, he thinks, have some share in accelerating the secondary fever, as so large a quantity of the assimilated fluids formerly passed freely by this channel.

The subject which next occupies Dr Walker's attention, is the theory and prevention of pits. After giving a view of the opinions, both of ancient and modern writers, upon this subject, and pointing out his objections to their different theories of pits, he attempts to shew what he takes to be their true cause, from the knowledge of which we can alone insure their prevention. He is of opinion, that they neither originate from acrimony, ulceration, nor loss of substance, but are the consequence of the pressure of the condensed pustules upon the tender cutis, producing the same effect as that of a seal impressing melted wax. As the condensation of the matured pustules upon the face, is, he thinks, solely owing to the influence of the external air, the first ob-

ject which he points out, is to prevent the access of air to the part. For this purpose, he advises the application of a mask made of fine cambric, thinly spread with a liniment composed of four ounces of olive oil, with half an ounce of sperma ceti, and as much white wax. This mask he directs to be continued till the pustules are perfectly emptied, which happens in the course of ten, twelve, or fifteen days. During this time, however, it is necessary that the mask should be often shifted, and the pustules gently wiped. For, at every dressing, each pustule will be found bedewed with pus, by which they gradually lessen in size, and become more and more flaccid.

Although Dr Walker ascribes the pits in the small-pox not to any ulceration, but solely to the impression of condensed pustules, yet he is far from denying that ulcerations are a common consequence of small-pox; and he makes some observations on these, principally with the view of pointing out the distinction between them and pits. The general cause of these ulcerations, he supposes to be the acrimony of the variolous pus: Hence they
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chiefly occur in the confluent small-pox. These ulcerations from the small-pox are to be treated in the same manner as other ulcerations. They are to be kept clean; the fungous granulations that sprout up from the bottom, are to be gently repressed with bandages, dry dressings, or mild escharotics; and they are to be cicatrized in the usual way.

Dr Walker concludes this work with a summary view of the advantages which arise from the mode here proposed for treating the worst kinds of small-pox. And he endeavours to shew, that by the early use of the antiphlogistic and evacuant plan of cure, in the manner proposed, we obtain a moderation of the eruptive fever; a diminution of the determination of morbid fluids to the head; a mitigation, if not an absolute prevention, of the secondary fever; and an alleviation of many of the most dangerous symptoms of the disease.

To this work is subjoined an appendix, containing some remarks on the frequency and mortality of the small-pox; from a view of which, some means are proposed for reducing the number of deaths. In treating of this subject,

subject, he bestows due encomiums on the judicious regulations published some years ago by Dr Haygarth of Chester, in his Inquiry how to prevent the Small-Pox; of which an analysis was given in a former volume of these Commentaries, (Vol. I. Decade II.) On this subject, Dr Walker himself proposes the following short and simple rules, which, he thinks, may easily be reduced to practice in every family.

1. Suffer no person, liable to the distemper, to enter the house where it is, and far less the chamber of the sick.

2. Let none of the family, who have not formerly undergone the disease, associate with the infected.

3. However mild the disease may be, the sick ought never to be permitted to walk the streets, and to expose others to infection.

4. Destroy all useless infectious rags.

5. Let no linen, or whatever else has been used or handled by the sick, be carelessly scattered about, or sent to another family, where any are liable to the disease.

6. All the linen, &c. used by the sick, ought

ought to be immerfed in a pail of water, and afterwards washed out and well aired.

7. Cleanliness, in general, is of the greatest use in pursuing the preventive plan.

8. When the distemper is over, the chamber must be washed, and every thing in it exposed for some time to the air.

Although the simplicity of this plan may, by some, be considered as an objection to it; yet, in reality, it ought to be a recommendation: and we have little doubt, that if people in general could be brought to put these rules in practice, the experience of their efficacy would afford the most complete demonstration of the advantages to be derived from them. At the same time, there is well grounded reason for hoping, that by the use of proper means for preventing the propagation of accidental contagion, conjoined with the general practice of inoculation, a disease, which, even at the present hour, is productive of as many deaths in Britain as it was a century ago, might be almost, if not altogether, banished from our bills of mortality.

This, therefore, is a subject well meriting the attention, not only of the humane physician,

cian, but even of the Legislature itself. And although every practitioner may not be disposed to adopt all Dr Walker's reasoning upon this subject; yet, in our opinion, every candid reader will derive much satisfaction from a careful perusal of his work.

XIII.

*Select Specimens of Natural History, collected
in Travels to discover the Source of the Nile,
in Egypt, Arabia, Abyssinia and Nubia.
Vol. V. 4to, Edinburgh.*

THE four preceding volumes of this work, contain an account of the travels and adventures of the celebrated Mr Bruce, in an expedition undertaken for the purpose of discovering the source of the Nile. Any account of these would be entirely foreign to the nature of the present work. But he has here collected, under the form of an appendix, his observations on those particulars which, to him, appeared most curious, either in the vegetable or animal kingdom. And, in this part of his work, several particulars are to be met with, well meriting the attention, not only of the curious naturalist, but also of the industrious physician.

After

After some preliminary remarks on the method of arrangement followed in this appendix, Mr Bruce, one of whose principal views it is, to ascertain those plants and shrubs well known to the ancients, but which, from different causes, are now either of doubtful existence, or uncertain description, begins with giving an account of the Papyrus. This plant, as he justly observes, was at first the repository of learning, and of record. It was the vehicle of knowledge from one nation to another: its uses were so extended, that it became even the food of man. Yet, in modern times, naturalists are not only disputing what this plant was, but also whether it is still to be found in Egypt. Mr Bruce, with his own hands, has collected specimens of it, from Syria, from the river Jordan, from different places in Upper and Lower Egypt, from the lakes of Tzana and Gooderoo in Abyssinia. All these he has found, in every particular, the same with what has been described by the ancients. He only thinks, that those of Egypt, the middle of the two extremes, were stronger, fairer, and fully a foot taller, than those either of Syria or of Abyssinia.

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The Papyrus of the ancients, according to Mr Bruce, is a species of the *Cyperus* of Linnaeus, but does not exactly correspond with his description of the *Cyperus Papyrus*. It is, according to Mr Bruce, about ten feet high, although he supposes, that when attention was bestowed upon the culture of it, some plants must have risen to fourteen or fifteen feet. The stalk is of a vivid green, thickest at the bottom, and tapering to the top; it is of a triangular form. It has but one root, which is large and strong, which runs horizontally. From the middle of it, the stalk rises at right angles; and a number of small elastic fibres, descending from it in a perpendicular direction, like the strings of a tent, fix it to the earth at the bottom. About two feet, or a little more, of the lower part of the stalk, is covered with long, hollow, sword-shaped leaves, which are of a dusky brown, or yellow colour. The stalk, from the covering of which the paper was made, Mr Bruce supposes to have been cut off about the place where these leaves end. This description is illustrated by an elegant engraving, from a drawing

drawing made by Mr Bruce himself, of the papyrus as growing.

Mr Bruce gives a very full account of the various purposes for which this plant was employed by the ancients. And, in particular, he offers some conjectures on the method in which he supposes they made their paper of it; which, he thinks, succeeded immediately to the hieroglyphic writings on stone: but he does not pretend to fix the date of its introduction. And he observes, that if the date of the invention be doubtful, the time when it was lost, or rather perhaps superseded by a more convenient practice, is equally uncertain. He tells us, that he has in his possession a large and very perfect manuscript on this paper, which was dug up at Thebes. The boards of this book are of papyrus root, covered first with the coarser pieces of paper, and then with leather, in the same manner as would be done now. It is of the size of a small folio. The letters are strong, deep, black, and apparently written with a reed, as is still practised by the Egyptians and Abyssinians. He tells us he has seen other detached leaves of the papyrus; but he does not believe

believe that there is another book of it existing at the present time, excepting that in his possession, which is very perfect.

The next vegetable of which he treats, is the Baleſſan, Balm, or Balfam. The great value ſet upon this drug in the Eaſt, remounts to very early ages. It is coeval, at leaſt, with the Indian trade for pepper; and the Iſhmaelites, or Arabian carriers, brought it into Egypt from India, as part of their cargo, with pepper.

Balfam is the product of a tree about fourteen feet high, which grows ſpontaneouſly all along the coaſt behind Azab, to the Straits of Babelmandel. Of this tree, alſo, Mr Bruce's deſcription is illuſtrated by an engraving. He takes it for granted, that it would be very ſoon tranſplanted from the African ſide to the oppoſite coaſt of Arabia Felix; and he thinks, that, at a ſtill later period, this highly valued perfume was tranſplanted into Judea, where it was cultivated only in the King's gardens. He ſuppoſes, that, after this, the importation of it from Arabia muſt have been prohibited as contraband; and that it was only

at this period it obtained the name of *Balsamum Judaicum*, or *Balm of Gilead*.

Three productions from this tree, were, he observes, very much esteemed among the ancients. The first was called *Opobalsamum*, or the Juice of the Balsam, which was the finest kind, composed of that greenish liquor found in the kernel of the fruit. The next, was *Carpobalsamum*, made by expression of the fruit when in maturity. The third, was *Xylobalsamum*, the worst of all ; it was an expression or decoction of the small new twigs, of a reddish colour. But the principal quantity of balsam, in all times, was, Mr Bruce thinks, produced by incision, as it is at this day. The tree is cut by an axe, when the juice is in its strongest circulation, in July, August, and the beginning of September. From this incision, the balsam is received into a small earthen bottle, and every day's produce gathered, and poured into a larger bottle, which is kept closely corked.

This balsam, as at first received into the bottle, from the wound made in the tree, is of a light yellow colour, apparently turbid, in which there is a whitish cast. As it settles,

cles, it turns clear, and loses the milkiness which it at first had when flowing from the tree. It has then the colour of honey, and appears more fixed and heavy than at first. After being kept for years, it grows a much deeper yellow, and of the colour of gold. Mr Bruce tells us he has still some of it, which he got from the Cadi of Medina in 1768. It is now, he observes, as deep in colour as the yellowest honey; it is perfectly fluid, and has lost very little either of its taste, smell, or weight.

The smell of balsam, in its recent state, is at first violent, and strongly pungent. It dissolves easily in water. If dropt on woollen, it will wash out, and leaves no stain. It is of an acrid, rough, pungent taste. By the Arabs it is used, Mr Bruce tells us, in all complaints of the stomach and bowels. It is reckoned powerfully antiseptic, and useful in preventing the infection of the plague; but it is particularly esteemed by the ladies as a cosmetic. The method of using it, is, by first going into the warm bath till the pores are opened, and then anointing with a small quantity, which the vessels absorb.

Among other vegetables not ascertained by botanists, is that furnishing the Gum Myrrh. This point, however, Mr Bruce has also endeavoured to determine with accuracy. When on the borders of the Troglodyte country, he made many attempts to procure branches of the myrrh tree; but in vain: at least he could obtain no branches sufficient to risk a drawing from. But, some weeks after this, when he was walking at Empas, a Mahometan village about twenty miles south from Gondar, the capital of Abyssinia, he saw a large tree, with the whole upper part of the trunk so covered with bosses or knobs of gum, as to appear monstrously deformed. And, upon farther inquiry, he found that it had been brought, many years before, from the myrrh country, by merchants, and planted there for the sake of its gum. Neither the origin of the tree, which they called Saffa, nor the gum upon it, could allow him for a moment to doubt, that this was the tree from which a gum is obtained, which had often been brought him from the myrrh country. And he had the additional satisfaction to find the tree all covered over with beautiful crimson flowers,

flowers, of a very extraordinary and large construction. Mr Bruce supposes this to be the Opocalpasum mentioned by Galen, and, with which, Galen complains that the myrrh was then often mixed. This gum, which is now called Sassa, upon being put into water, swells, turns white, and loses all its glue. The tree, Mr Bruce tells us, grows to a great height, not inferior to that of an English elm; and the one which he found at Empas, was about two feet in diameter. He here gives us a very minute description of the tree, and of its beautiful flower, which are illustrated by an accurate drawing; without which, any description of it could hardly be intelligible. The flower, however, has no odour; and he never saw any fruit or seed which the tree bore.

Besides these, Mr Bruce here presents us with accurate descriptions, and elegant figures, of several curious and beautiful vegetables; especially of the Ergett, Enfete, Kol-Quall, Rack Gir-Gir, Kantufa, Gagedi, Wanzey, Farek, Kuara, and Walkuffa. But, as none of these seem to be employed in medicine; without taking any farther notice of them, we

shall next give some account of what he says of the Wooginoos, or Brucea Antidysenterica.

This shrub, he observes, is a production of the greatest part of Abyssinia, especially of the sides of the valleys in the low country. The figure with which we are here presented, was drawn at Hor-Cacamoot, in Ras el-Feel, where the wooginoos grow abundantly, and where dysenteries prevail continually; Heaven having put the antidote in the same place with the poison. Some weeks before Mr Bruce left Gondar, he had been much tormented with dysentery; and when he happened to be at Hor-Cacamoot, his disease, which had resisted every remedy he could think of, threatened the most imminent danger. By the advice of the natives, he had recourse to the bark obtained from the root of this tree. This root is nearly as thick as a parsnip, and is covered with a clean, clear, wrinkled bark, of a light brown colour, which is easily peeled off from the root. The native who directed him to the use of it, after having removed it from the root, and cleared the inside of it from a whitish membrane, laid it to dry in the sun, and afterwards reduced it to a powder. Of
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this powder, Mr Bruce took, for the first dose, about an heaped tea spoonful, in a cup of camel's milk ; and two of these doses were taken in the day. On the first day, he found little alteration ; but, on the second, he found himself sensibly better ; and, by the sixth or seventh, he was cured. In the course of his journey through Sennaar, where dysenteries prevail very much, he found that all the inhabitants were acquainted with the virtues of this plant ; and he used it successfully in many other cases.

It is, he observes, a plain simple bitter, without any aromatic or resinous taste ; but it leaves in the throat and palate something of roughness. Mr Bruce brought the seeds of this shrub to Europe ; and it has grown in every garden into which it has been introduced. It was not before known to botanists ; and Sir Joseph Banks, justly celebrated for his extensive knowledge in botanical science, has given it the name of *Brucea Antidysenterica*.

In a printed letter which has lately been sent to medical practitioners in many different parts of Britain, by Mr J. Butt, of Bartlet's Buildings, London, it is asserted, that a bark lately

brought in considerable quantities from America, under the title of Cortex Angusturæ, is the bark of the Brucea Antidysenterica, or Wooginoos of Abyssinia; and that, exclusive of other qualities, it is found, in the cure of fevers, to be much superior to the Peruvian bark. Of the medical virtues of the Cortex Angusturæ, we have not yet sufficient experience to say any thing from our own observation. And, on what botanical description of the tree, from which it is obtained, it has been asserted to be the same with the Brucea Antidysenterica, we do not know. But we may observe, that the Cortex Angusturæ, as obtained from London, appears to us to be essentially different, both in its appearance and sensible qualities, from the dried bark of the Brucea Antidysenterica, obtained from the trees growing in the botanical garden of this city, and which were raised from seeds given to the late Dr Hope by Mr Bruce.

Another article, of which Mr Bruce treats, and which may be considered as deserving particular notice, is the Cusso, or Bankfia Abyssinica, as it is now called. This, he tells us, is

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one of the most beautiful, as well as one of the most useful trees of Abyssinia. It is an inhabitant of the high country, and indigenous there; and he considers it as an example of the wisdom of Providence, that it does not extend beyond the limits of the disease, of which it was intended to be the cure.

The Abyssinians, he observes, of both sexes, and at all ages, are troubled with a terrible disease, which custom, however, has enabled them to bear with a kind of indifference. Every individual, once a month, evacuates a large quantity of worms, of the kind known by the name of *Ascarides*. The method of promoting these evacuations, is, by infusing a handful of dry cussò flowers in about two English quarts of bouza, or the beer which they make from teff. After infusion for the space of a night, it is fit for use next morning. During the time the patient is under the operation of the cussò, he makes a point of being invisible to all his friends, and continues at home from morning till night. It is alleged, that the want of this medicine, is the reason why the Abyssinians do not travel; or, if they do,

do, why most of them are short lived. The seed of this tree is very small, and it sheds its seed very easily; from which circumstances, no great quantity can be gathered: and Mr Bruce thinks, that it is probably from this circumstance, that the flower is substituted. It is of a bitter taste, but is not nearly so strong a bitter as the semen fantonicum.

The Cusso seldom grows above twenty feet high, and is very rarely straight. It is commonly planted near churches, for the use of the town or village. The leaf is about two inches and a quarter long, divided into two by a strong rib. It is of a deep unvarnished green, exceedingly pleasant to the eye. The fore part is covered with soft hair or down. The flower is at first of a greenish colour, tinged with purple; but, when full blown, the outer leaves are altogether of a deep red or purple; the inner ones are white, and consist of five petals, resembling another flower. In the middle, is a strong pistil, with a round head, surrounded by eight stamina of the same form, loaded with farina. The bark of the tree is smooth, of a yellowish white, interspersed

spersed with brown streaks, which pass through the whole body of the tree.

The better to illustrate the description of this vegetable, Mr Bruce has given two very elegant engravings of it. And, as he assures us that the figures are true and exact beyond exception, he is inclined to hope, that this tree may be found in the West Indies or America. Since it proves a gentle, safe, and efficacious medicine in Abyssinia, he does not doubt, that the superior skill of European physicians may turn it to the advantage of mankind. In consequence of the established prerogative of discoverers, Mr Bruce has named this beautiful and useful tree after that illustrious botanist Sir Joseph Banks, distinguishing it by the title of *Bankia Abyssinica*.

European botanists have not probably been so successful with this tree, as with the Brucea; at least no mention is made of its growing, either at Kew, or in any of the other gardens which Mr Bruce enriched with seeds. If, however, fertile seeds can be procured, a trial should be made to propagate it in the botanic gardens

gardens at Jamaica and St Vincents, or in some other proper situation in our West India islands. For, after the industrious researches of able botanists, we think there is reason to fear that it is not indigenous there.

The last vegetable production of which Mr Bruce treats, is the Teff. This is a grain commonly sown over all Abyssinia, where it seems to thrive equally in all sorts of ground; and from it is made the bread in common use throughout the whole country. The Abyssinians, he observes, have indeed plenty of wheat, and some of it of excellent quality, from which they make very fine wheat bread: but this is chiefly confined to people of the first rank. Teff, on the other hand, is used by all sorts of people, from the King downwards; and there are kinds of it which are esteemed fully as much as wheat. The best is as white as flour, exceedingly light, and easily digested; but there are others of a browner colour, some of them nearly black. This last is the food for soldiers and servants. Many different causes produce this variation of colour. The lighter the earth is, in which it grows, the bet-

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ter and the whiter will the teff be; and the teff ripening before the heavy rains, is whiter and finer than it is afterwards. Much of its whiteness also depends upon sifting the husk from it after it is reduced to flour. This flour, made into a lump with water, is put into an earthen jar, at some distance from the fire, where it remains till it begins to ferment, or turn sour. It is then baked into cakes of a circular form, and about two feet in diameter. This bread is of a soft spongy quality, and of a fourish taste, not disagreeable. Two of these cakes every day, and a coarse cotton cloth once a year, are, Mr Bruce tells us, the wages of a common servant.

The Bouza, or common beer of the country, is made from the teff in the following manner. The teff bread, well toasted, is broken into small pieces, and put into a large jar. Warm water is then poured upon it. It is afterwards put by the fire, and frequently stirred for several days, the mouth of the jar being close covered. After being allowed to settle for three or four days, it acquires a fourish taste, and is then what they call Bouza.

za. In Atbara, bouza is made in a similar manner; only, instead of teff, cakes of barley meal are employed. Both liquors, Mr Bruce observes, are very bad; but the worst is that made of barley. These liquors are probably very similar to the Quas of the Russians, which is made of cakes formed of a mixture of rye-meal and malt.

The plant itself is herbaceous. From a number of weak leaves, proceeds a stalk about twenty-eight inches in length, not perfectly straight, and pointed or knotted at particular distances. About eight inches from the top, a head is formed of a number of small branches, upon which it carries the fruit and flowers. The flower is crimson, and scarcely perceptible by the naked eye, but from the opposition of colour. The pistil is divided into two, seemingly attached to the germ of the fruit, and has at each end small capillaments forming a brush. The stamina are three in number; two on the lower side of the pistil, and one on the upper. These are each of them crowned with two oval stigmata, at first green, but afterwards of a crimson colour. The fruit is
found

found in a capsula, consisting of two conical leaves, which, when closed, seems to compose a small conical pod, pointed at the top. The fruit or seed is oblong, and not so large as the head of the smallest pin; yet it is very prolific, and produces these seeds in such quantity, as to yield a very abundant crop.

It is, Mr Bruce thinks, a matter of doubt, whether this grain was known to the Greeks and Romans. He thinks it, however, very improbable, connected as Egypt and Ethiopia were for the first ages, both by trade and religion, that a grain, of such consequence to one nation, should be utterly unknown to the other. But the ancient writers have described most of their grains so lamely, that we cannot expect to arrive at any certainty on this subject. From the similarity of name, however, he offers it at least as a conjecture, that the grain mentioned by Pliny under the title of *Tiphe*, was the *Teff* of *Abyssinia*.

After treating of the most beautiful and interesting vegetables, Mr Bruce next gives some account of the most striking quadrupeds, birds, and fishes, which he met with in the
course

course of his travels. And he concludes with some remarks on the pearls of the Red Sea. But although his accounts of these may well merit the attention, and excite the curiosity of naturalists; yet they are not so immediately connected with medicine, or medical philosophy, as to fall within the plan of our work.

XIV.

Some Remarks on the Prevalence of the Atrophia Lactantium. By Joshua Walker, M. D. Physician to the General Infirmary at Leeds. Vide *Memoirs of the Medical Society of London*, Vol. II. 8vo, London.

THE Atrophia Lactantium, Tabes Nutricum, or that emaciation which arises from the suckling of children, is a disease with which physicians are not unacquainted. But its more frequent occurrence, Dr Walker observes, in the town and neighbourhood of Leeds, renders it now a subject of more serious consideration than formerly, and especially to the inferior classes of females, to whom it is particularly incident. It must therefore appear to be a matter of importance to point out the cause of this growing malady, and to excite the attention of practitioners towards it.

It has, he remarks, been observed with regret in several parts of Britain, and, among o-

thers, at Leeds, that since the more plentiful introduction of tea into the families of the industrious poor, by the late reduction of its price, the disease which is here treated of has made an unusually rapid progress. The difficulty with which animal food is procured by the lower ranks of society, in sufficient quantity, has led many of them to substitute, in place of more wholesome provisions, a cheap infusion of this foreign vegetable; the grateful flavour, and perhaps, it may be added, the narcotic quality of which, is found to create an appetite for itself in preference to all other kinds of aliment: while, at the same time, the lowering effects of tea drinking, lead too many of them to seek for relief from spirits, at the expence of health, and the sure consequences of penury and want.

As this change in the article of diet has been very generally made, especially by the females, their constitutions have been rendered much less able to bear evacuations of any kind, and particularly that which takes place by nursing. And Dr Walker tells us, he can with truth affirm, that during these last two years, more than two hundred patients of this denomination

mination have fallen under his notice. From the inquiries which Dr Walker has been led to make, respecting the nature of their diet, their almost invariable reply has been, that they have chiefly depended upon tea for their support; while, at the same time, they were permitting an apparently healthy child to draw the whole of its nourishment from them.

Dr Walker thinks, that the symptoms of this disease clearly prove its foundation to be laid in debility, and an impoverished state of the whole system, arising from a deficiency of nutritious aliment, while the constitution particularly requires it, to repair the continual waste which is the consequence of suckling. He considers the lungs as being only symptomatically affected, in a secondary way.

The patient first complains, he observes, of languor and general weakness, loss of appetite, fatigue after exercise, even of the most gentle kind, and pains in the back and limbs. After these, symptoms of general atrophy come on; the face, in particular, grows thin, and is marked by a certain delicacy of complexion, and paleness about the nose, but with a small

degree of settled redness in the cheeks. Soon after this, if the patient still continue to give suck, she is seized with transitory stitches in the sides, under the sternum, or in some other part of the thorax. These are accompanied with a short dry cough, and slight dyspnoea. The pulse also becomes frequent, but seldom so hard as in the inflammatory state of genuine phthisis pulmonalis. Morning sweats next make their appearance; abscesses are often formed in the lungs; pus, mixed with mucus, is expectorated; the general weakness increases; the emaciated patient is unable to support an erect posture, and at last dies literally exhausted.

With respect to the method of treating this disease, Dr Walker observes, that his design is rather to point out the cause of its present unusual prevalence, that suitable cautions may in due time be given to the unsuspecting sufferers, than to offer to the public any new mode of practice. The plan of cure which he chiefly proposes, is the following: *1st*, The mother must wean her child immediately on the appearance of symptoms of debility. *2^{dly}*, The patient's diet must be changed from tea, and the less nutritive vegetables, to milk, and
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its various preparations. Broth, and a small quantity of solid animal food, with a due proportion of bread and esculent roots, are also to be enjoined. And, where the poverty of the patient does not prevent it, jellies, chocolate, sago, salep, and tapioca, are also to be advised. 3dly, The animal food which is allowed should always be taken for an early dinner, and by no means late in the afternoon or evening.

In addition to this plan of regimen, however, he recommends also the use of gentle tonics, and particularly the following mixture of Gum Myrrh and Sal Martis; which, with some alteration, is the same recommended by Dr Griffith in his essay on hectic fever.

℞ Gummi Myrrhæ pulv. drachmam unam.

Tinct. Cort. Peruv. drachmas sex.

Tere simul, et adde sensim.

Aq. Fontanæ uncias sex.

Salis Nitri scrupulos duos.

Salis Martis grana duodecim.

Syrupi Balsamici semunciam. f. Mist. cu-
jus capiat ægra unciam, mane jejuna,
hora undecima matutina et quarta po-
meridiana.

In some cases, where there appears to be an exacerbation of the fever in the afternoon, Dr Walker has thought it more useful to confine the administration of this remedy to the forenoon, and to direct a few spoonfuls of saline julep to be taken frequently in the afternoon, and during the night, if necessary.

If, for the course of a week after this mixture has been regularly administered, the patient remain free from pain, or a sense of stricture in the thorax, or any other symptoms indicating an inflammatory affection of the lungs, we may, Dr Walker thinks, hope for a favourable termination of the disease. In this case, bleeding, he contends, should not be permitted even in the smallest quantity, as the patient's strength, as well as general habit, have been sufficiently reduced by the preceding circumstances of lactation and improper diet.

If, however, when the disorder has been neglected, and the patient has continued to give suck longer than her ability will permit, the symptoms indicate a more advanced state of the disease, and fixed pains, in some part of the thorax, come on, with oppressed breathing,
and

and a frequent hard pulse, then, he thinks, a small bleeding, to the amount of two or three ounces, may be of use. And instead of myrrh, iron, bark, and vitriolic acid, it will be advisable to take off the inflammatory determination to the lungs, by strictly enjoining a milk and vegetable diet; by keeping the bowels gently open with the mildest laxatives; by moderating the symptomatic fever with cooling saline substances; and by palliating the cough with mucilaginous medicines.

The inflammatory spasm, or constriction at the thorax, should at the same time be relieved by the application of blisters to the pained part, and renewing them as they heal, rather than by keeping them open. When most of the inflammatory symptoms are thus removed, these patients then bear the use of myrrh, watery infusions of bark, and elixir of vitriol, with considerable advantage; which are found, by experience, to be much more generally beneficial in these symptomatic cases, than in genuine phthisis arising from the inflammation and suppuration of tubercles in the lungs themselves.

If the disease be still farther advanced, and accompanied with morning sweats, purulent spitting, prostration of strength, and the utmost degree of debility, both reason and experience, he tells us, point out the expediency of supporting the patient's strength, by restorative diet, allowing a small proportion of animal food at least once a day.

XV.

XV.

On the Efficacy of the Gummi rubrum astringens Gambiense, or, as some term it, the Gummi Kino, in Intermittent Fevers, and certain preternatural discharges. In a letter to Dr Lettsom from Anthony Fothergill, M. D. &c. Vide Memoirs of the Medical Society of London, Vol. II. 8vo, London.

THE present inquiry respecting the Gum Kino, was, the author informs us, begun at the desire of the late celebrated Dr John Fothergill, who first introduced this new astringent gum into the Materia Medica. Dr A. Fothergill had formerly communicated to his excellent friend some experiments on its chemical and pharmaceutical properties; but that paper is, it seems, now missing. The present paper gives some account of its medical virtues.

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As the Kino contains an aromatic, combined with an astringent quality, Dr A. Fothergill considered it as in some degree approaching to the Peruvian bark. It seemed, therefore, not unreasonable to suppose, that it might possibly, in some cases, supply its place. This led him to try it in intermittent fevers, and preternatural discharges. In some cases, it succeeded far beyond his hopes; in others, it disappointed his expectation. But, to enable the reader to form a proper estimate of its properties, he here presents us with a short, yet accurate detail of the chief cases in which he employed it.

The first case here related, is that of a girl in the eighteenth year of her age, who had for two months been subjected to a quotidian ague, which had resisted the Peruvian bark, and several other medicines. Finding attempts to cure at home unsuccessful, she came under the care of Dr Fothergill as an out-patient at the Northampton hospital. He directed for her the Gum Kino, under the form of tincture, prepared by dissolving two ounces of it in a pound of proof spirit. Of this tincture, half an ounce was directed to be taken an
hour

hour before the fit, in a draught of herb tea, and to be repeated every four hours during the intermission. The fits soon became milder, and in about a month the ague wholly disappeared.

A girl, aged fourteen, had been for six weeks affected with a quotidian ague, attended with the usual symptoms. After an emetic, she took every four hours a scruple of the Gum Kino in herb-tea. It occasioned no sickness or nausea; on the contrary, her appetite, during its use, daily improved. In less than ten days, the ague ceased.

A woman, aged thirty-seven, was admitted into the Northampton hospital, for hysteric symptoms. In six weeks, she was considerably relieved from these, by the use of Extract of Bark, and Volatile Foetid Spirit. But even during the liberal use of the bark, she was seized with a tertian intermittent, against which that grand febrifuge, as it has been termed, seemed to have lost its efficacy. In its place, therefore, Dr Fothergill ordered half a dram of the Kino to be taken every four hours between the paroxysms, without any previous emetic. This she continued about a month,

month, when the ague left her, and she was discharged.

A middle-aged man was admitted into the hospital, after having laboured under a tertian ague for four months. He had taken Peruvian bark for about three months, but without any lasting benefit. His disease was attended with severe cough. After an emetic of antimonial wine, Dr Fothergill directed half an ounce of the tinctura à Kino to be taken every four hours in warm linseed tea. A common linctus was ordered to be taken occasionally when the cough was troublesome. The ague entirely disappeared in less than a month; but the cough still, in some degree, continued. At last, however, it yielded to country air.

Besides these, Dr Fothergill, in the paper before us, relates several other cases of intermittents, which were removed during the use of this remedy. But, among others, we have the following, in which it was unsuccessful. A middle-aged man, of a sickly constitution, was admitted into the hospital for an intermittent, under which he had laboured for several months. During that period, it had assumed

fumed various types, and had of late become totally irregular. After an antimonial emetic, the Tinctura è Kino was given between the fits, as in the former cases. By this means, the disease became less severe; but still the paroxysms returned at irregular periods, although the medicine was continued almost for two months. Tincture of bark was now given in its stead, and an antimonial sudorific during the paroxysm, but without any better success; for the intermittent continued as obstinate as ever during the remaining Winter, and even till the Spring was considerably advanced, when it went off spontaneously; rather, perhaps, in consequence of the genial warmth of the season, than real utility derived from any of the medicines. From cases similar to this, Dr Fothergill observes, wonderful cures of agues are often ignorantly attributed to a variety of the most absurd and insignificant remedies, merely in consequence of the nostrum being administered at a lucky period.

In addition to this case, we shall relate only one other, which, in its circumstances, was somewhat peculiar. A robust man, in the fortieth year of his age, was admitted for an
Autumnal

Autumnal quartan, which had continued obstinate above four months. The cold fit generally lasted full three hours, during which his appetite was voracious, and he devoured not only his own food, but that of the other patients, when he could get it. The rigour was succeeded by a severe hot fit, which continued for several hours. After an emetic, he took half a dram of the Gum Kino, every four hours, during the intermission. The symptoms soon abated, and at length ceased for about ten days. Then, however, they returned with greater violence. The emetic was now repeated, double doses of the gum were administered, and an anodyne pill at the beginning of the hot fit. The paroxysms, from this time, became milder, his appetite more moderate, and, in about three weeks longer, the ague entirely disappeared.

Upon the whole, from the experience which Dr Fothergill has had of the use of this astringent gum in intermittents, particularly where the Peruvian bark had failed, he considers it as well deserving the attention of medical practitioners. It may not, however, be improper to remark, that, in none of the instances here mentioned,

mentioned, was the intermittent immediately stopt. In many of them, it was continued for the space of several weeks; and, during that period, there is at least a chance that a cure may have taken place, either from some other cause, or even what may be called spontaneously.

With regard to the use of this medicine in preternatural discharges, Dr Fothergill observes, that he has tried it with various success. He does not, however, detail the cases in which he used it; but observes, in general, that in profuse discharges of the catamenia, it has sometimes afforded signal relief. He has likewise found it useful in recent diarrhoeas and dysenteries, after necessary evacuations. And, in a youth of fourteen, who from infancy had been troubled with an incontinency of urine, remarkable benefit was obtained from the daily use of the Gum Kino, made into an electuary with the Syrupus à Meconio.

In fluor albus, it has generally, he observes, disappointed his expectations. In one case of chronic dysentery, in another of diarrhoea, and in a third of feminal weakness, it was tried for a long time with no better success. He thinks
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it, however, but fair to observe, that the two former cases afterwards baffled a variety of other remedies, and at length terminated fatally. The latter remained far from being cured. But, as he justly observes, on what article of the *Materia Medica* can we rely, when internal organs are decayed, or have lost their natural tone? And although we cannot, from any experience of our own, confirm Dr Fothergill's opinion with respect to the advantages of the Gum Kino in intermittents; yet, from numerous observations in actual practice, we are convinced, that, where an astringent is indicated, the Gum Kino may be often employed with peculiar advantage.

XVI.

Observations on the Effects of Tartar Emetic, and of Arsenic, by external absorption. Communicated in a Letter to Dr Lettsom, by John Sherwen, Surgeon. Vide Memoirs of the Medical Society of London, Vol. II. 8vo, London.

THE ingenious author of the observations now under consideration, anxious for the improvement of medical science, has made himself the subject of experiments, both curious and interesting, with the view of ascertaining the effects of two of the most powerful articles of the Materia Medica. And he here freely communicates the result of them to the public.

On the 18th of October 1785, he rubbed upon the palms of his hands, with the assistance of a few drops of water, five grains of Emetic Tartar. He was at that time in per-

fect health. The first sensible effect, was a considerable glow of heat upon the parts. But, in about half an hour, he dropt asleep as usual, and rested well till four in the morning. He then awoke, contrary to his usual custom, and was sensible of a very slight nausea. It was, however, so slight, that he thinks it might perhaps be fancy only. His skin burnt a little, and was rather uneasy; but, in less than an hour after, he began to perspire, and continued doing so, in a pleasant manner, till his usual hour of rising. But, at that time, the perspiration increasing, he continued in bed till seven; and was convinced, that, had he been able to have continued longer in bed, he might have induced a copious sweat, by the use of warm diluting drinks. Upon rising, and wiping off the perspiration with a dry cloth, he found no inconvenience, excepting some little disinclination to breakfast.

As the emetic tartar, in the form of powder, though assisted with moisture, did not seem to rub in pleasantly, he varied the form, by dissolving one dram in two ounces of water, which produced a saturated solution, part of the emetic tartar remaining undissolved at the

the bottom of the phial. At ten o'clock at night, he again rubbed into his hands and wrists eighty large drops of this solution, containing, as nearly as he could judge, nine grains of the tartarised antimony. The same quantity was, at the same time, used by two young men in his family, who did not know that it was a solution of emetic tartar, as he wished to hear their account in the morning, uninfluenced by fancy.

Mr Sherwen himself awoke at four o'clock, as before, hot, and rather uneasy. His pulse was quickened, as if he had drank wine. He felt some slight nausea, and a peristaltic motion. In about an hour, his skin began, as before, to moisten; and at six o'clock perspiration came on. At this time he arose; and, in the course of two hours, found the antimony to act twice as a gentle laxative.

Both his coadjutors felt a burning sensation in the palms of their hands, and were sweated in the night. One was sick the next forenoon; the other was slightly sick, and had a brisk evacuation by stool; but was cured of a cold which he had upon him at the time when he went to bed.

For two or three days after this experiment, Mr Sherwen was sensible of an increased flow of urine, and some little tendency to looseness, a thing very unusual to him. Soon after this, he prevailed upon a lady of a very delicate nervous habit, who had a slight cold and inflammation of the tonsils, to try the same remedy, *viz.* five grains of tartarised antimony, rubbed in with the assistance of a few drops of water. She slept as usual, felt a burning sensation in the palms of her hands, and, once or twice in the night, awoke with nausea, but no perspiration. The same lady repeated the dose in solution, to the quantity of seven grains. She experienced some slight perspiration and nausea. In the morning, it had the effect of an easy dose of physic; and, throughout the following day, she was sensible that her whole system was acted upon by the medicine. Its most sensible effect, was a considerable increase of the flow of urine; and, two or three days after, she observed a rash, with considerable itching, all over her skin, which did not subside in less than two days more.

A lady,

A lady, aged fifty, had long complained of pain in her side, loss of appetite, and chronic weakness, which she sometimes attributed to a fall that she met with six months before. At other times, she ascribed her disorder, as women at that period do almost every disorder, to the menses flying about her. Her illness, however, in Mr Sherwen's opinion, was probably in a great measure owing to the drying up of an ulcerous inflammation in her leg, which had for some years been attended with a considerable discharge, and which had entirely ceased upon the application of a white powder given by a neighbour. Mr Sherwen prevailed upon this lady to rub seven grains of tartarised antimony, with a few drops of water, upon her side, and the region of her stomach, where the pain was chiefly felt. She rubbed it in freely with her own hand. After using three or four doses, he asked what effect she had observed. She said, that it searched her all over; that she sweated so profusely, her shift and the sheets might have been wrung; that she was sick, but did not retch. After the use of this remedy, her leg began again to discharge freely; and she felt

herself so much relieved, that she desired to have a continuation of the same medicine. She rubbed in, for some time, ten grains of the antimony every second night, and obtained a perfect cure from many complaints which had been very obstinate. Her disease, however, at last put on an intermittent appearance, in which the Peruvian bark produced a happy effect.

These different experiments, afford, Mr Sherwen thinks, sufficient evidence, that large quantities of tartarised antimony may thus be introduced into the constitution with very little inconvenience. And there cannot, he affirms, be a doubt, that this mode of administering antimonials must be infinitely preferable to swallowing, when we wish them to act on the general system as alteratives. If a putrid or bilious colluvies is to be evacuated from the stomach or intestines, a proper dose, by the mouth, will always be preferred. But how many patients, he observes, labouring under scorbutic, herpetic, and leprous eruptions, have persevered in the use of antimonial wine for months, nay, for years, with little or no benefit? If, says he, antimonials be useful in these,

these, or any other chronic affections, let them in future be administered in the manner here proposed. For thus the fluids of the human frame may be safely saturated with antimony in its most active form; and a proportion of this valuable medicine may thus, without exciting irritation in the stomach, pass through the system in one week, greater than in twelve months by the usual mode of administering it.

That the discoveries resulting from these important, though simple experiments of Mr Sherwen, may lead to useful conclusions in practice, to us appears highly probable; but his expectations from the superiority of this mode of introducing antimony, are perhaps too sanguine. And there is certainly some room for doubting, whether its effects, in the removal of leprous and herpetic complaints, are in any degree to be attributed, as he supposes, to the human fluids being saturated with this mineral substance in an active form. Perhaps the benefit derived from antimony, even when introduced into the blood by friction on the surface, is still much more to be attributed to its action on the sensible muscular

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fibre, and even on the stomach itself, than to any change induced on the mass of blood. But, whatever may be the principle on which the benefit resulting from this practice is to be explained, it well merits future attention; and whether the real advantages derived from it shall hereafter be found to be very considerable or not, we must still consider ourselves as much indebted to the ingenuity of Mr Sherwen for his observations on this subject.

In concluding his observations on this subject, Mr Sherwen thinks it necessary to caution patients against the use of acids. He had some reason to think, that he was himself injured by inattention in this respect. It has already been mentioned, that, for two or three days after the external application of the solution of tartarised antimony, he felt an increase both of the urinary and intestinal discharges, from which he concluded that he was still under the influence of antimonial particles, floating in the system. At that time, he rubbed a few grains of tartarised antimony, with his own hands, upon the skin of a patient afflicted with a dysenteric fever, of a very malignant kind, which had evidently been acquired
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by infection, and from which he could evidently trace the progress of infection to two other patients, who with some difficulty recovered. He washed his hands carefully immediately after, and thought no more of what he had done.

The next day, he ate a small bunch of grapes; the following day another; and, in the afternoon, having occasion to go through an excellent field of turnips, of which he is remarkably fond, he was tempted to indulge his palate. In the night, he was seized, soon after having been called up in the course of his profession, with violent tormina, and almost incessant inclination to go to stool, with little or no evacuation. Often, after straining ten minutes, not more than a few drops of mucus, slightly tinged with blood, would appear. In the morning, he took infusion and tincture of fenna, with soluble tartar, and diluted most copiously with water-gruel and mutton-broth, with a view to increase the quantity of the discharge, but with little effect, as the fluids which he drank in such quantities quickly passed off by the kidneys, without washing the intestines. The tenesmus continued with
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racking pain all day. At night, he was quieted by the use of a testaceous mixture, with plenty of Gum arabic, without having recourse to Laudanum. By the use of the testaceous mixture, he got perfectly well in a few days, generally finding immediate relief as soon as it reached his stomach, though the seat of the pain was low down in the intestinal canal.

Unable to determine whether this complaint was excited by the absorption of the tartarised antimony, or by infection, Mr Sherwen thinks it best to leave the intelligent reader to his own reflections. The consequence, however, upon his health, was, he tells us, such, that he could not help considering as stumbling at the very threshold, as it put a stop, for several days, to his career of experiments.

After Mr Sherwen had some ground for suspecting that he had suffered so severely from the tartarised antimony, it may perhaps appear extraordinary, that the next subject of experimental inquiry should be arsenic. He had long, however, he tells us, been anxious to hit upon some lenient mode of administering this powerful mineral, knowing that the
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most valuable remedies have been discovered in the class of poisons. Arsenic, taken internally, was some years ago strongly recommended in France, for the radical cure of cancers. But the practice does not appear to have made any great progress even there.

Reflecting upon this subject, it occurred to Mr Sherwen, that as arsenic is but little soluble in water, it would be necessary to procure a more soluble preparation of it, in order to institute fair and judicious trials. And Mr Sherwen flatters himself, that he has been fortunate in his endeavours to procure such a preparation, which he has here freely communicated to the public, in hopes that some ingenious reader may assist in perfecting and rendering it useful to mankind. This preparation, which is made in the following manner, he styles

Arsenicum Solubile vel Tartarisatum.

℞ Arsenici albi.

Chrystallorum Tartari singulorum uncias duas.

Aquæ puræ libram unam. Coque per horam dimidiam; deinde cola per chartam,

tam, et rite evaporatum seponere quo
chryſtalli formentur.

It will immediately, he observes, occur to the intelligent chemist, that this is a preparation formed on the plan of the Antimonium Tartarifatum of the London Pharmacopœia. And Mr Sherwen observed with pleasure, that he could, in this manner, with little trouble, produce an arsenical tartar, soluble in water, and of a beautiful appearance.

After having prepared the Arsenicum Tartarifatum, he made the first trials of it upon himself; and this duty is, he thinks, incumbent upon every one who wishes to strike out new discoveries in medicine, especially when he attempts the use of dangerous drugs. At ten o'clock at night, on the 27th of October, he rubbed one grain of it into the palms of his hands. He slept well as usual; and, in the morning, thought he could observe a very sensible increase in the flow of urine, but could discover no other effect. He repeated the experiment the night following, in conjunction with two young gentlemen under his care. All of them experienced the same effect, some increase, viz. in the flow of urine, but nothing

thing else remarkable. On the 29th, they repeated the experiment with two grains each. The increased secretion of urine was remarkable in them all; and Mr Sherwen himself was sensible of some degree of nausea in the morning; from which he infers, that the medicine acted on the general system.

On the 30th, he determined upon trying the same medicine inwardly; and, for this purpose, he directed a grain of the tartarised arsenic to be rubbed up with half an ounce of sugar, and then divided into sixteen equal parts. The smallness of the dose, he observes, may perhaps wear the appearance of timidity; but, in a business of this kind, it is, he thinks, impossible to act with too much caution, especially as the quantity can be increased at pleasure. He swallowed it undiluted. It excited some uneasy sensation in the oesophagus, not unlike the heart-burn; and, small as the dose was, he could perceive its effects as a very powerful diuretic. The next night he repeated the same dose, in conjunction with his two assistants and his coachman; and all of them experienced its effects as a diuretic.

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About a month after this, Mr Sherwen ventured on a much larger dose of the *Arsenicum tartarifatum*. On the 29th of November, at ten o'clock at night, he swallowed half a grain of it, dissolved in half an ounce of water. In this experiment, he was deserted by his fellow-labourers; but, with him, it was at least attended with no bad effect. We are not, however, informed of the particular result of the experiment. For he tells us, that, in consequence of some particular hurry next day, he either neglected to make a minute of the effect, or, if he did so, his paper has been mislaid. From his not recollecting the particulars, however, we may readily conclude, that nothing very remarkable occurred; and the experiment at least serves to shew, that the medicine may be taken to the extent of half a grain, with impunity, at least. Other subjects having of late engaged Mr Sherwen's attention, he has never repeated these experiments. But he trusts, that the observations already offered, may induce some other practitioner to prosecute the inquiry.

We need hardly, we presume, remind our reader, of a treatise on the subject of arsenic, employed

employed as a medicine, which was published some years ago by the ingenious and industrious Dr Fowler of Stafford, and of which an account was given in a former volume of these Commentaries. From that treatise it appeared, that Dr Fowler had very extensively employed arsenic internally, with success, in the cure of intermittent fevers, and periodic headaches. By him, also, it was exhibited in a saline state; but in place of bringing it to that condition by means of an acid, he had recourse to the fixed vegetable alkali; and he employed it in a state of watery solution, without its having been brought to the form of crystals. Still, however, the medicine which he employed may be considered as alkalised arsenic. But whether this mineral substance, when employed for medical purposes, is to be preferred in its alkalised or tartarised state; or whether, from either of them, we can derive good effects not to be had from other and less dangerous medicines, still remains to be determined by future experience.

The few experiments here recorded, clearly prove, Mr Sherwen thinks, that the preparation

tion of arsenic which he employed, is possessed of great powers as a diuretic, independent of that further power which it is well known to possess, of exciting the most heart-felt sickness and nausea. And on this he is inclined to believe, that the efficacy of various emetics and hydragogue cathartics, in exciting the action of the absorbent vessels, often depends. And, if any reader, struck with the importance of this subject, should think of prosecuting the inquiry, some encouragement may, he thinks, be offered to him, from observing, that there was once a time, when practitioners would have dreaded the internal use of mercury, antimony, and perhaps hemlock, as much as we do, at this day, the internal administration of arsenic.

XVII.

Observations on Cancers. By Henry Fearon,
Surgeon to the Surry Dispensary, and F.M.S.
Vide Memoirs of the Medical Society of Lon-
don, Vol. II. 8vo, London.

MR Fearon sets out with observing, that, in the paper before us, he is far from pretending, thoroughly to investigate the cause, origin, and nature of cancer; a disease, with the successful medical treatment of which, every candid and modest practitioner in physic will readily acknowledge himself unacquainted. When, therefore, he ventures to hazard the opinion of inflammation being the cause of Cancer; or, in other words, that it is always connected with the disease in a greater or less degree, it is more, he tells us, with the design of exciting the inquiries of other practitioners, than from the vain attempt

of elucidating perfectly a complaint hitherto enveloped in obscurity.

From obstructions, external injury, and the like, inflammation, he observes, in some degree ensues. And he is inclined to think, that if we were to treat cancerous complaints at an early period, as proceeding from inflammation, we would be much more successful in practice. To this opinion and mode of cure, Mr Fearon was first led by an incident, which occurred in a particular case afterwards related. In that case, supposing, from the cessation of the menstrual evacuation, that there would, for some time, be a greater quantity of blood in the constitution than it had been accustomed to bear, he thought advantage might be derived from substituting an artificial evacuation, instead of that which had ceased. The more he has since reflected on all the practice he has witnessed, the more it has tended to confirm his opinion. For in all cases, he observes, where he has seen Solanum, Mercury, Martial flowers, or Arsenic given, they did harm. And if, from Cicuta or Opium, any advantages appeared to ensue, they were but of short duration.

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The cure of Cancer, according to Mr Fearon, is very simple, and consists in bleeding; either topical or general, according to the seat of the complaint, or the part affected. In the beginning of scirrhus affections of the breast and testes, the mode he has adopted of taking away blood, is by leeches repeatedly applied to the parts. In this course, however, he tells us he has often been interrupted by the topical inflammation, produced by these animals, around the parts where they fastened. In delicate females, he has thus often lost a week before he could proceed to the reapplication of them. When symptoms lead him to suspect the stomach, uterus, or any of the other viscera, to be so affected, that the complaint either is, or will soon be cancerous, he has recourse to general bleeding. But whether general or topical bleeding be employed, he considers perseverance, for a sufficient length of time, as necessary; and he assures us, that though the pulse never indicated such practice, yet the patients have not suffered by repeated bleedings. On the contrary, when they allowed a certain time of losing blood to pass, they felt a return of their symptoms,

and, of their own accord, desired to be bled again.

To this plan of practice by repeated bleedings, Mr Fearon joined a milk and vegetable diet, avoiding wine, spirits, and fermented liquors. He also directed the belly to be kept open, and saturnine applications to be used externally. To illustrate and confirm this practice, different cases are here related; and, from one of these, Mr Fearon, as has already been hinted, was led to adopt his present opinion respecting the nature and treatment of this affection.

The subject of the first case, was a poor woman about the fiftieth year of her age, a patient at the Surry Dispensary. She suspected her complaints to have originated from her having been exposed, for some time, to the inclemency of the weather, as she then felt herself generally indisposed, and went to bed. She complained of sickness at her stomach and back; symptoms which she supposed to have arisen from the obstruction of the menses, which had not appeared for six weeks. Something warm was taken, with the view of promoting the usual discharge; but in this hope
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she was disappointed, as they never appeared, and her pains continued gradually to increase, extending all over her bowels, particularly after eating. These symptoms continued for about sixteen months, without any intermission, excepting for a few days at a time. During that period, she had repeatedly applied to several regular, as well as itinerant practitioners, but without obtaining the least relief. Vomits, blisters, purgatives, and every other remedy which had been tried, only increased her complaints.

When Mr Fearon first saw her, she was amazingly reduced in flesh. She complained of cold fits, attended with shiverings, and was affected with a swelling on the right side of her belly; on examination of which, he found that the abdomen was much distended, and he could feel a considerable local induration. She complained of thirst; her appetite had been for some time on the decline; and no solids would lie on her stomach, as vomiting ensued soon after eating, attended with a discharge of blood, and a very offensive acrid matter. Her respiration was difficult; her pulse small and frequent; she was costive;

and her urine was in small quantity, and high-coloured. All these symptoms increased for some time after Mr Fearon saw her, till death freed her from sufferings which almost exceeded description.

Permission being obtained to open the body, the stomach was found to be the chief seat of the disease. Its great extremity was of a natural appearance, but contained a quantity of chocolate-coloured fluid, so extremely offensive, that the smell produced sickness, even with those accustomed to dissection. The middle of the small extremity and pylorus formed a compound mass, which was closely united to all the neighbouring parts. On the middle, and fore-part of the stomach, there was an ulcer about the size of half a crown, with uneven ragged edges, through which some of the fluid was discharged into the cavity of the abdomen. The duodenum, ducts, and gall-bladder, all adhered strongly to the liver, and formed a mass of great size. On being laid open, it discovered an extensive cavity, with large cancerous knobs appearing on its surface. It is perhaps unnecessary to add, that while the disease was here evidently
cancer,

cancer, the effects of inflammation were manifest, and perhaps, in some degree, led Mr Fearon to the plan which he has since employed for the treatment and prevention of this loathsome disease.

The next case here recorded, is that of a lady in Clifford street, who consulted Mr Fearon for a lump which she had discovered in her right breast. The first symptoms, were a stretching fulness in the part, attended with an oppression at the stomach. As these complaints were similar to what she had been accustomed to feel preceding the appearance of her menses, she did not think it necessary to take any opinion of her case for a fortnight afterwards. But an increased hardness, with a darting pricking pain, particularly after being handled, justly alarmed her. She was now in the forty-ninth year of her age, and her menses had not appeared for six weeks before she perceived the lump, which was clearly a scirrhus forming. But, between the seventh and eighth week from the former appearance, she had a plentiful flow of the catamenia, which lasted longer than usual. During this, the lump in her breast subsided, and the pain went entirely off. As the cure was here

clearly to be attributed to the return of the menses, Mr Fearon directed, that when these entirely ceased, bleeding should be substituted to the amount of three or four ounces every six weeks or two months; that her belly should be kept open, and that she should live abstemiously. By these means, she has now remained free from a relapse for some years.

The next case related, is that of Elizabeth Robinson, a patient at the Surry Dispensary. Before her admission, she had, for six months, been afflicted with a swelling and pain in her breast. The tumour was incompressibly hard to the touch, and gave her very acute pain after being handled. The nipple was contracted, and the veins of the skin were varicose. After *Cicuta*, Martial flowers, and Corrosive sublimate, had been tried without success, Mr Fearon ordered four leeches to be applied to the breast every second day, directing, at the same time, a milk and vegetable diet. This plan soon produced a diminution of the swelling, pain, and all the concomitant symptoms; and in nine weeks she appeared to be perfectly cured. From the loss of blood, she became very thin and pale, infomuch,

infomuch, that her acquaintance advised her not to lose any more. But the uncommon benefit which she experienced from the bleeding, induced her to persevere; and she has since recovered her health and vigour, which she now enjoys without the least interruption.

The last case we shall mention, is that of a gentleman aged fifty, who consulted Mr Fearon for a scirrhus testicle, which had been two years forming. During that time, the size, weight, and pain, had considerably increased, and the spermatic cord was a little thickened. The darting pains were so frequent at times, as to deprive him of his natural rest. Mercury and sea-bathing had been employed without effect. Upon his application to Mr Fearon, he ordered ten ounces of blood to be taken from the arm, and leeches to be applied to the part at least thrice a-week. To this an abstemious diet was conjoined, and his body kept open. This plan was continued only ten weeks, by which time he was completely cured.

From these facts, Mr Fearon concludes bleeding to be a specific in the early stages of scirrhus complaints. And he adds, that even
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in apparently reduced and shattered constitutions, when the disease has been of long continuance, attended with affections of the lungs, scirrhus of the kidneys, liver, or any other viscera, and, lastly, even with a cadaverous countenance, becoming yellow, wan, and fallow; the disease, being entirely beyond operation, while cicuta and opium fail of their effects, small bleedings have often immediate influence in mitigating the sufferings of patients, whose approaching fate cannot be prevented.

To these facts, Mr Fearon observes, many more might be added; but he thinks them sufficient to demonstrate the influence of blood-letting in this disease. There cannot be a doubt, that it will afford sincere pleasure to other practitioners, to find the success of Mr Fearon's practice confirmed by their own experience. But when he represents blood-letting as a specific in Cancer, we cannot help entertaining fears, that it will be found no more entitled to the appellation, than other boasted specifics, now almost entirely neglected. At the same time, if it shall be found even sometimes advantageous,

vantageous, in combating the disease in its incipient state, and in alleviating the sufferings of the patient towards the last periods of it, practitioners must necessarily consider this practice as well meriting attention and imitation.

XVIII.

The Philosophy of Natural History. By William Smellie, *Member of the Antiquarian and Royal Societies of Edinburgh.* 4to, Edinburgh.

IN the work now before us, the ingenious author, introduces his subject with some observations on the distinguishing characters of animals, plants, and minerals. Nothing, he observes, is apparently more easy than to distinguish an animal from a plant ; and yet the proper distinction has puzzled the most acute inquirers, and perhaps exceeds the limits of human capacity. After shewing, that the attempts made to ascertain the boundaries between the vegetable and animal kingdom, by Jungius, Ludwig, Linnæus and others; have proved altogether abortive, he endeavours to demonstrate, from a variety of facts, that we are entirely ignorant of the essence and properties of
life ;

life ; that plants make very near approaches to animals ; and that this similarity, as well as the difficulty of fixing the precise boundaries by which these two great kingdoms of nature are limited, are the direct consequences of the organization of vegetables. This organic structure, though greatly diversified in different species of animals and vegetables, evinces, he thinks, that Nature, in the formation of both, has acted upon the same general plan. Since plants, as well as animals, are composed of a regular system of organs, may we not, he adds, presume that the vegetable part of the creation is not entirely deprived of every quality which we are apt to think peculiar to animated beings? He does not, he tells us, mean to insinuate that plants can receive pleasure or pain. But, as many of their motions and affections cannot be explained upon any principle of mechanism, he is inclined to think, that they originate from the power of irritability ; which, though it implies not the perception of pleasure or pain, is the principle which regulates all the vital and involuntary motions of animals.

It

It is, our author thinks, unnecessary to mark the distinction between vegetables and minerals. For, while the transition from the animal to the plant is effected by shades so imperceptible as to elude the most acute observers; between the plant and the mineral, there is a vast chasm in the chain of being. In bodies purely mineral, not a vestige of organization can be discovered. But, although Nature ceases to organize, she continues to arrange. Here Nature, he observes, regardless of symmetry, conjoins heterogeneous materials, of which she composes original masses. Many stones, flints, and other concretions, afford examples of this kind; and, though more art appears in the formation of metals, yet their structure exhibits no vestiges of organization.

Having shewn the extreme difficulty of fixing the boundaries which separate the animal from the vegetable kingdom, Mr Smellie proceeds to the more pleasing task of enumerating some of those beautiful analogies which subsist between them. And here, under the different heads of Structure and Organs, Growth and Nourishment, Dissemination and Decay,

Decay, he presents the reader with many ingenious and curious observations.

In treating of the organs, and general structure of animals, he gives a short view of the external and internal parts of the human body. He compares this structure with those of Quadrupeds, Birds, Fishes, and Insects; and concludes with an inquiry, how far the peculiarities of structure are connected with peculiarities of manners and disposition. From numerous facts, he concludes, that the bodily forms of the different kinds of animals are exactly adapted to the rank they hold in the creation; and that their œconomy and manners are strictly and invariably connected with their structure and organs. Change, says he, the external or internal form of an animal, diminish the number of stomachs in the ruminating animals, or give to the horse a parrot's bill, and the species will be annihilated. But the comparative power, or strength of animals, depends not, he observes, on structure alone. Mental faculties and docility seem to be the greatest sources of animal power. Hence man's unlimited empire over other creatures. The invention of language, of arms, of writing,

ing, printing, and engraving, have been the chief means of his acquiring the dominion of the earth. By these arts, men transmit the inventions and improvements of one age to another. By these arts, the dispositions of men are softened; their manners become more civilized; humanity is gradually extended; and grosser animosities yield, at least, to external politeness. How far this progress of science and the peaceful arts of life, by the accumulation of ages, may proceed, it is impossible to determine. But the time, it is to be hoped, is not very remote, when the fiercer contentions of nations will cease; when selfishness and venality will give way to generosity of temper, and uprightness of conduct.

After many interesting remarks on the respiration of animals, and the various modifications of the organs employed by Nature for the transmission of air into animal bodies, he from thence concludes, that air is necessary for the support and continuation of animal life. And he observes, that not only men, quadrupeds, birds, fishes, reptiles, and the larger insects, but even fleas, mites, the minute eels found in paste or in vinegar, and the animalcules produced

duced by infusing animal and vegetable substances in water, inevitably perish when deprived of this all-vivifying element. Air is, he observes, no less necessary to the existence and vegetation of plants, which absorb and transmit it through every pore, and whose vegetating powers are found to be irrecoverably extinguished in the exhausted receiver of an air-pump.

As the air, however, which we continually breathe, is an universal menstruum, and, of course, liable to be impregnated with exhalations from every substance to which it has access, the great importance of personal, as well as domestic cleanliness, is an obvious reflection; and, in building towns or houses, the situation with respect to air is a capital object. Hence, as our author justly observes, the vicinity of marshes, of stagnating waters, of manufactures of oil, tallow, sal-ammoniac, the smelting and corroding of metals of every kind, and many other operations which contaminate the air, should be either avoided or removed, as they are the pests of our senses, and the poisoners of our constitutions.

After some observations on the motions of animals, Mr Smellie next proceeds to treat of their instincts. He first gives some examples of what he calls pure instincts; by which he understands those, independently of all instruction or experience, instantaneously producing certain actions when particular objects are presented to animals, or when they are influenced by peculiar feelings. Of these, in the human species, a remarkable example occurs, in the instinct of sucking. And the brute creation, he observes, afford innumerable examples of pure instincts. Thus, when caterpillars are shaken off a tree in every direction, all of them instantly turn towards the trunk, and climb up, though they had never formerly been on the surface of the ground.

As a second class of instincts, he gives examples of those which accommodate themselves to peculiar circumstances and situations. To this class, he thinks, many human instincts may be referred; but as these are highly improveable by experience and observation, they fall, he thinks, more naturally under a third class, presently to be mentioned. Passing over the examples of the Falcon, the Dog, and the

the Fox, pursuing their prey with intelligence and address, he mentions a striking example in a Cat of his own, who dexterously opened with her paw the common iron latch of the door of a closet into which she was often put, as soon as she tired of her confinement.

The third and last class of instincts, comprehends all those which are improveable by experience and observation. The superiority of man over other animals, seems, to him, to depend chiefly on the great number of instincts with which his mind is endowed. The following, he considers as examples of modified, compounded, or extended instincts. Superstition is the instinct of fear, extended to imaginary objects of terror. Devotion is an extension of the instinct of love to the First Cause, or Author of the universe. Reverence, or respect for eminent characters, is a species of devotion. Avarice is the instinct of love, directed to an improper object; and Hope is the instinct of love, directed to future good. In this manner, he thinks all the modified, compounded, or extended passions of the human mind, may be traced back to their original instincts.

Instinct, he thinks, may be defined, "Every original quality of mind which produces particular feelings or actions, when the proper objects are presented to it." And, from the facts here enumerated, he thinks it apparent, that every animal is possessed of some of these qualities; that the intelligence or resources of animals are proportioned to the number of instincts with which their minds are endowed; that all animals are, in some measure, rational beings; and that the dignity and superiority of the human intellect, are necessary results, not of the conformation of our bodies, but of the great variety of instincts which Nature has been pleased to confer on the species.

The next subject which engages Mr Smellie's attention, is the Senses. No animal, of which we have any knowledge, is endowed with more than five external senses; and no animal, however imperfect, is destitute of the whole. On each of the senses of Smelling, Tasting, Hearing, Seeing, and Touching, he offers many curious and interesting observations. And he concludes this subject with a short view of the ingenious performance of the Abbé de Condillac, intituled, *Traité des Sensations*;

fations ; in which the sagacious author imagines the situation and feelings of a statue, limited, at first, to a single sense, and afterwards acquiring gradually the whole five : and, by this supposition, he beautifully illustrates how far the different senses correct and improve each other.

In treating of Infancy, in which our author includes the portion of life which commences at birth, and terminates at that period when animals have acquired the power of self-preservation, without any assistance from their parents, he observes, that it must necessarily vary greatly in different animals. But he endeavours to shew, that its duration, from man to the insect tribes, is proportioned, not to the extent of life, but to the sagacity or mental powers of the different classes of animals. The great mortality of mankind, during this period, is, he thinks, to be attributed to unnatural practices in the management of children, introduced by superstition, ignorance, over-refinement, prejudice, or hypothetical systems ; while the œconomy and analogy of Nature, in the conduct and situation of inferior animals, are almost totally neglected.

From his observations concerning the infancy of animals in general, he concludes, that Nature has uniformly, though by various modes, provided for the nourishment and preservation of all animated beings, while they are in an infantine state. Though the human species continue long in that state, the attachment and solicitude of both parents, instead of abating in proportion to the time and labour bestowed upon their progeny, constantly augment, and commonly remain during life. The reciprocal affections of parents and children, is one of the greatest sources of human happiness. If the love of children were not strong, and if it did not increase with time, the anxiety and fatigue of mothers would be insufferable. But Nature, whose wisdom is always conspicuous, makes affection brave every difficulty, and sooth every pain. If a child be sickly, and require uncommon care, the exertions of the mother are wonderfully supported. Pity unites with love; and these two passions become so strong, that hardships and fatigue of every kind are suffered with cheerfulness and alacrity.

With

With regard to the inferior tribes of animals, Nature, Mr Smellie observes, has not been less provident. To quadrupeds and birds, she has given a strong and marked affection for their offspring, as long as parental care is necessary. But, as soon as the young begin to be in a condition to protect and provide for themselves, the attachment of the parents gradually subsides. They become regardless of their offspring, banish them from their presence with blows, and seem to have no knowledge of the objects which so lately had engrossed all the attention of their minds, and occupied all the industry and labour of their bodies. And here, he remarks, the dignity and superiority of man appears in a conspicuous light. Instead of losing the knowledge of his offspring, after they arrive at maturity, his affection expands, and he embraces grandchildren and great-grandchildren, with equal warmth as if they had immediately originated from himself.

After many ingenious remarks on the growth and food of animals, our author proceeds to treat of the sexes of animals and vegetables. On the latter of these subjects, he strenuously

combats the present prevailing doctrine respecting the sexes of plants; and, by much acute reasoning, founded on experiments made by himself, and on those also of Spallanzani, he endeavours to shew, not only that the hypothesis of the sexual system is not yet proved, but also that it has no foundation in nature. On a subject of so intricate controversy, it would be foreign to our business here to enter. We may only observe, that, notwithstanding all the ingenuity he has exerted upon this subject, the facts and arguments in support of the sexual system of plants, seem to us still so far to preponderate, as to render it at least no improbable supposition. The subject, however, still affords ample scope for the labours of the future theorist; and even a repetition of the experiments made by Mr Smellie and Spallanzani, may not be unworthy of attention.

After some observations on the puberty of animals, and on their loves, Mr Smellie proceeds to treat of the transformation of animals. From this he considers even man as not exempted; which clearly appears from the account he gives of the progress of the human species,

species, from the embryo state to that of perfection, decay, and dissolution. He elegantly delineates, also, the changes which the mind of man undergoes, which are no less remarkable than those of his body. But, of all animals, the most various and wonderful transformations take place in the insect tribe. After giving an account of some of the most common transformations, and pointing out the diversity in the appearance, the structure, and the organs of the caterpillar, the chrysalis, and the fly, which, to one unacquainted with their transformation, in place of an identical animal, would be considered as three distinct species, he gives examples of some of the more uncommon kinds of transformations.

There is not, he observes, a law established among organized bodies, which seems to be so universal, as, that all of them grow or augment in size, after birth, till they arrive at maturity. If a hen were to bring forth an egg as large as her own body, and if this egg, when hatched, were to produce a bird of equal dimensions with the parent, it would be considered as a miracle ; but the spider-fly, so denominated from its figure, affords an example

ple of a similar prodigy. This fly actually lays an egg, from which a new fly is hatched, as large and as perfect as its mother. This egg is roundish, is at first white, and afterwards assumes a shining black colour. Upon a more accurate examination, however, this production is found to be an egg only in appearance. When the envelope is removed, instead of a gelatinous substance, the new insect, furnished with all its membranes, is discovered. But this discovery does not render the fact less wonderful. All winged insects undergo their different transformations after being expelled from the bodies of their mothers, and receive great augmentation of size before their metamorphosis into the nymph or chrysalis state; after which, their growth stops. But the spider-fly affords an instance of an insect transformed in the belly of its mother, and which grows no more after it escapes from its envelope.

But, singular as even the common transformation of insects may appear, Mr Smellie endeavours to shew, from numberless facts, that it is only the throwing off external and temporary coverings, and not an alteration of the original

original form. The discoveries of Reaumur have shown, that the chrysalis, or rather the butterfly itself, is inclosed in the body of the caterpillar. The proboscis, the antennæ, the limbs, and wings of the fly, are so nicely folded up, that they occupy a small space only under the two first wings of the caterpillar. Caterpillars may be considered, then, as analogous to the fœtuses of men and quadrupeds. They live, and receive nourishment in envelopes, till they acquire such a degree of perfection as enables them to support the situation to which they are ultimately destined by Nature.

Transformations are not peculiar to animals. In the vegetable kingdom, also, forms are perpetually changing. And even the mineral kingdom, our author observes, is not less subject to metamorphoses. Without attempting a complete investigation of the intentions of Nature in changing forms, a subject which, in his opinion, exceeds the powers of human research, he points out, as one great intention, an approach to the perfection of individuals. And he adds, that the distribution of life to an immensity of successive individuals, seems to be

be another. Were the existence of individuals perpetual, or were it prolonged for ten times the period now established, life would be denied to myriads of animated beings, who enjoy their present limited portion of happiness.

After many curious remarks on the habitations of animals, particularly of the beaver, the bee, and the termites bellicosi; after many interesting observations on the hostilities, the artifices, the society, and the docility of animals, he concludes this last subject with some remarks on the effects of domestication. Climate and food are, he observes, the chief causes which produce changes in the magnitude, figure, colour, and constitution of wild animals. But, besides these, there are others which have influence upon animals, when reduced to a domestic or unnatural state. Animals, when at perfect liberty, seem to have selected those particular zones or regions of the globe which are most consonant to the nature or constitution of each particular tribe. There they spontaneously remain, and never, like man, disperse themselves over the whole surface of the earth. But, when obliged by
man

man to abandon their native soil, they undergo changes so great, that, to recognise and distinguish them, recourse must be had to the most accurate examination.

But to climate and food, thus changed, another still more powerful cause of alteration, is the empire of man, which, he thinks, has perhaps still more influence in degrading and disfiguring Nature. Thus, Mr Smellie observes, that the Mouflon, the stock from which our domestic sheep have derived their origin, is comparatively a large animal. He is as fleet as a stag, armed with horns and strong hoofs, and covered with coarse hair. With these natural advantages, he dreads neither the inclemency of the sky, nor the voracity of the wolf. He not only escapes from his enemies by the swiftness of his course, but is enabled to resist them by the strength of his body, and the solidity of his arms.

How different, says Mr Smellie, is this animal from our domestic sheep, who are weak, timid, and unable to defend themselves? Without the protection of man, the whole race would soon be extirpated by rapacious animals, and by winter storms. In the warmest cli-
mates

mates of Africa and of Asia, the Mouflon, who is the common parent of the sheep, appears to be less degenerated than in any other climate. Though reduced to a domestic state, he there preserves his stature and his hair; but the size of his horns is diminished. The sheep of Barbary, Egypt, Arabia and Persia, have undergone greater changes; and, in proportion as they approach towards either pole, they diminish in size, in strength, in swiftness, and in colour. In relation to man, they are improved in some articles, and vitiated in others. Their coarse hair is converted into fine wool. But, with regard to Nature, improvement and degeneration amount to the same thing; for both imply an alteration of the original constitution.

After pointing out many changes produced by domestication on the size and colour of animals, particularly in the Ox, the Dog, and the Hog, he observes, that the variations from the original colour are most remarkable in our domestic fowls. Thus, in a brood of chickens, though the eggs be laid by the same hen, and though the female be impregnated by the same male, not one of them has the
same

same colour with another. He concludes with observing, that domestication not only changes the external appearances of animals, but alters or modifies their natural dispositions. Thus, the dog, when in a state of liberty, is a rapacious quadruped, and hunts and devours the weaker species. But, according to Mr Smellie, after he has submitted to the dominion of man, he relinquishes his natural ferocity, and is converted into a mean, servile, patient, and parasitical slave. To this sentiment, however, we must own we cannot altogether subscribe ; for, while his change from ferocity to mildness seems hardly to diminish his courage, in place of the slave and the parasite, he is entitled to the appellation of the honest and watchful servant ; nay, even of the generous, affectionate, and faithful friend of man.

Mr Smellie next presents us with some observations on the characters and dispositions of animals ; particularly pointing out the rapacious, the mild, the timid, the bold, and the generous. These characters, he observes, under the influence of domestication, may be modified ; but the original character impressed

fed by the hand of Nature, can never, he thinks, be completely obliterated. But besides the general specific character, among the human race in particular, individual characters are strongly marked, and greatly variegated. In the general expression of the countenances of some men, a resemblance may be discovered to goats, sheep, swine, lions, dogs, foxes, owls, hawks, or other animals. These resemblances, he observes, may often be fanciful; but he is inclined to think, that, in general, where the resemblance is strong to any particular animal, the dispositions of the man have also a striking affinity to those of the animal to whom he approaches in appearance.

In treating of the principle of imitation in animals, Mr Smellie endeavours to prove, that it is the nearest approach to reasoning and language. He attempts to demonstrate, that the migration of animals is more common than is generally imagined; and he brings several arguments to prove, that the supposed submersion of swallows is impossible. He particularly contends, that no land-animal can subsist so long without respiration; and he considers

ders their plumage, and the specific gravity of the animals themselves, as another strong argument against their submerſion. What he views as the principal objects of migration, are food, temperature of air, and convenient ſituations for breeding.

After ſome obſervations on the longevity and diſſolution of organized bodies, among which Mr Smellie has collected many of the beſt authenticated inſtances of extraordinary longevity in Britain; he concludes this learned, ingenious, and entertaining work, with ſome remarks on the progreſſive ſcale or chain of beings in the univerſe. From man, to the minuteſt animal that can be diſcovered by the microſcope, the chafm ſeems to be infinite: But that chafm is, he obſerves, actually filled up with ſentient beings, of which the lines of diſcrimination are almoſt imperceptible. Even among mankind, which is a particular ſpecies, the ſcale of intellect is extenſive, as abundantly appears from comparing an enlightened philoſopher with a brutal Hottentot. Still, however, Nature obſerves, for the wiſeſt purpoſes, her uniform plan of

gradation. Were all men philosophers, the business of life could not be executed; and neither society, nor even the species, could long exist. Industry, various degrees of knowledge, different dispositions, and different talents, are the great bonds of society.

Our knowledge, he observes, of the chain of intellectual and corporeal beings, is very imperfect; but what we do know, gives us exalted ideas of that variety and progression which reign in the universe. The whole universe he considers as linked together by a gradual and almost imperceptible chain of existences, both animated and inanimated. And, were there even no other argument in favour of the Unity of Deity, this uniformity of design, this graduated concatenation of beings, seems to him to be perfectly irrefragable.

While he considers man as standing at the head of animals in this world, he is of opinion, that no sentient being, with superior mental powers, could possibly live and be happy on earth. Let man, therefore, says he, be contented: His station in the univer-

fal scale of Nature is fixed by Wisdom. Let him contemplate and admire the works of his Creator: let him fill up his rank with dignity; and consider every partial evil as a cause or an effect of general good. This is the whole duty of Man.

XIX.

A Treatise on Putrid Intestinal Remitting Fevers ; in which, the Laws of the Febrile State, and Sol-Lunar Influence, being investigated and defined, are applied to explain the Nature of the various Forms, Crises, and other Phænomena of these Fevers : and thence is deduced and instituted, An improved Method of Curing them. By Francis Balfour, M. D. Soc. Reg. Med. Ed. S. H. 8vo, Edinburgh.

THE ingenious author of the treatise now before us, published, some years ago, a small tract at Calcutta in Bengal, in which he endeavoured to call the attention of the medical profession to the influence of the Moon in fevers. For an account of that work, we may refer our readers to a former volume of these Commentaries, (Vol. IX. Decade I.) The public, however, are now presented with this doctrine

doctrine on a more extended scale, and confirmed by additional reasoning and observations, the result of five years longer residence in India, and in a situation which afforded extensive opportunities of attending to the course of diseases, in actual practice. Without, however, resuming any part of the account which we have formerly given of this doctrine, we may only, in general, observe, that the author first endeavours to investigate and define the laws of the febrile state, and of the Sol-Lunar influence, from the phænomena; that he next attempts to employ the laws of the febrile state, and Sol-Lunar influence, to explain the nature of the various forms and crises of putrid intestinal remitting fevers, and other phænomena; and that he concludes, with employing the knowledge thus obtained of the nature of these diseases, to deduce and institute an improved method of curing them. Referring such of our readers as wish particularly to examine the proof here offered of this new doctrine, to the work itself, we shall here content ourselves with giving some account of the general rules of practice which he deduces from thence.

When putrid intestinal remitting fevers take place, in their mild and safe form, without local infection, he proposes the following general rules for the cure.

1. That the contagious matter must be evacuated, if possible, before the mucus of the stomach and intestines be infected and corrupted; or before an absorption, sufficient to excite and confirm the disease, has taken place, by vomiting, purging, and sweating, with the forms of emetic tartar that are best suited to these several purposes.

2. That, when the first attempts to stop the fever at the beginning, by immediate evacuations with emetic Tartar, have been made; and when it appears to be established and confirmed, the time of the nocturnal meridional paroxysms must be dedicated, during the four or five first days of the Fever, to the task of loosening and detaching the mucus from the coats of the intestines, by repeated doses of Calomel, taken at bed-time; and these must likewise be exhibited, for the same purpose, during the course of the disease, whenever they appear to be required by the state of the bowels.

3. That

3. That the time of the succeeding inter-meridional intervals must be employed, during the four or five first days of the Fever, in discharging the mucus which has been loosened and detached by the doses of Calomel, with whatever other fæces have been collected in the course of the night, by a laxative solution of Sal. Cathart. Amar. &c. of which small doses must likewise be continued every morning, or every second morning, in the course of the disease, to prevent the collection and remora of any putrid and offensive matter, and its future absorption.

4. That every possible means must be employed to prevent the readmission of contagious effluvia into the body, by renewing and correcting the air in which the patient breathes, &c. and by a proper change of his linens and bed-clothes.

5. That the body must be refreshed and nourished; particularly in the course of the day after the operation of the morning laxative, and before the approach of the nocturnal exacerbation, by small cupfuls of panada given at proper intervals.

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6. That,

6. That, being assured that the lunar periods will certainly aggravate the meridional paroxysms, we are on no account to procrastinate, at the beginning of the disease, the exhibition of the medicines prescribed for clearing the bowels, from any idle hope that it will vanish of its own accord; but, on the contrary, are to proceed with all the expedition we can, and are likewise to be careful to avoid every irregularity that may increase the violence of the fever, and concur with the natural tendency of this period.

7. That we are not to be alarmed by a continuation of the fever, or by any moderate aggravation of the symptoms that may take place at the lunar periods; but to proceed steadily, according to the method we have proposed, without changing our plan, or harassing our patient with a constant change, and trial of unnecessary and painful remedies, knowing that all will terminate well, and in good time, in one of the interlunar intervals.

8. That we must co-operate with the natural tendency of the commencement of the interlunar interval to resolve the spasm; and that

that we must encourage the discharge of the morbid particles circulating in the blood, by the natural secretions; and must act upon this plan during the whole of the interlunar intervals.

9. That if the symptoms of the febrile state have not perfectly disappeared at the end of the interlunar interval, we are to be on our guard to avoid every irregularity that may concur with the natural tendency of the lunar period to renew the fever.

10. And that, if the fever should revive in the lunar period, it is to be treated upon the principles and rules that have been explained, making proper allowance for the change that has taken place in the patient's strength.

After delivering these general rules, which he thinks should direct us in treating the milder and safer forms of putrid intestinal remitting fevers, without local affection, he lays down the following rules for the management of those which are more violent and dangerous.

1. That the rules already proposed, in treating the mild and safe forms of these fevers, for stopping the fever, if possible, in the very beginning,—for evacuating the bowels effectually

fectually with calomel and the laxative solution,—and for giving nourishment, are to be observed strictly during the two first days of such forms as may threaten to be violent and dangerous: That, on the morning of the third day, immediately after the operation of the morning laxative, in order to check putrefaction, suppress the violence of the meridional paroxysms, and give security against a failure of strength, or any unfavourable turn in the fever, the Peruvian bark is then to be exhibited in substance, and to be continued for two days, in such doses, that twelve drams, or two ounces, may be thrown in before the expiration of the second day: That then the calomel is to be repeated at bed-time, and the laxative in the morning: That, immediately after the operation of the morning laxative, the bark is to be again reiterated for two days, just as before: That the calomel and laxative are again to be repeated; and so on, until the fever give way: After which, it is sufficient to support the effect of the powder, by a few doses of the decoction given daily; and to repeat the laxative solution every second or third day, as occasion may require.

2. That

2. That, to prevent the bark from being thrown up, or passed by stool, and also to make nourishment sit upon the stomach, and to procure ease and repose, opiates are to be given freely.

Dr Balfour next proceeds to treat of putrid intestinal remitting fevers, with local affection. And here, it may be remarked, that he considers all the disorders he had met with in India, under the form of dysentery, and most of those under the form of pleurisy, peripneumony, acute rheumatism, and many other local affections attended with fever, as nothing more than so many different cases of putrid intestinal remitting fevers, accompanied with different local affections, and therefore to be distinguished from each other in this respect alone. These, as well as the putrid fevers without local affection, he divides into such as are mild and safe, and such as are more violent and dangerous.

For the cure of the first of these, he proposes the following general rules.

1. That they are to be treated exactly according to the rules laid down for treating the
mild

mild and safe forms of putrid intestinal remitting fevers, without local affection.

2. That the whole body, and especially the parts affected, are to be better defended from cold, than when there is no local affection; and other means used to promote and support a gentle perspiration.

In the more violent and dangerous forms, the following are the rules which he lays down.

1. That they are to be treated exactly according to the general rules laid down for curing the more violent and dangerous forms of putrid intestinal remitting fevers, without local affection.

2. That the whole body, and especially the parts affected, are to be more carefully defended from cold than when there is no local affection; and other means used to promote a general perspiration.

3. That bleeding and blistering are to be administered, when indicated by the violence and obstinacy of the local affection, especially when it is seated in any vital or important part; taking care to obviate the failure of the general strength, which is apt to succeed the
loss

loss of blood, by an immediate exhibition of Peruvian bark, wine, and nourishment.

These different sets of general rules, we need hardly observe, although not standing in contradiction to the practice hitherto commonly employed in the putrid remitting fevers of warm climates, are yet, in some degree, immediately deduced from the theory of lunar influence; and if that theory be well founded, we need not add, that the observance of them must be productive of the most beneficial consequences in practice. How far this planetary influence, however, is founded in nature; or, if founded, how it is to be explained, we cannot pretend to say. Indeed this Sol-Lunar influence, Dr Balfour himself assumes, from observation, as an established principle or law of nature, without pretending to say, whence it proceeds, where it exists, or how it operates. As far as our observation goes, and ever since the publication of Dr Balfour's former treatise, we have not been inattentive to this subject, neither meridional paroxysms, nor lunar exacerbations, are so distinctly marked as clearly to demonstrate any Sol-Lunar influence, in this country at least. The
concurring

concurring testimony, however, of many practitioners of accuracy and observation, from India, would lead us to conclude, that there it is much more manifest. And it cannot, as some have conjectured, be explained from the influence of high tides producing marshes, since many of the observations confirming it, particularly those of Dr Balfour himself, were made at Banaris, and other places not less than three hundred miles distant from the reach of tides. Whatever, therefore, may be the case in this part of Europe; yet still Dr Balfour's observations may lead to a new and improved system of medicine, in those climates where Sol-Lunar influence is found to prevail.

XX.

An Account of a particular Change of Structure in the Human Ovarium. By Matthew Baillie, M.D. Vide Philosophical Transactions of the Royal Society of London, Vol. LXXIX. for the year 1789. 4to, London.

THE ovaria in women, Dr Baillie observes, are subject to a great variety of changes from their natural structure. Many of these are exactly similar to what take place in other parts of the body; but there is one change, which he considers as peculiar to them, and the nature of which, he thinks, has not hitherto been well ascertained. This change of structure is a conversion of the natural substance of an ovarium into a fatty mass, intermixed with hair and teeth.

We have already, in a former part of this volume, presented our readers with a singular history

history of this kind, and with the observations and sentiments of an ingenious anatomist respecting it; and we have here before us another case of the same kind, which, though varying in several particulars, is, in its circumstances, not very dissimilar. This case, which occurred to another distinguished anatomical teacher, is here communicated to the public, with those reflections which it suggested to him.

Though many cases of this kind are to be met with in books of dissections, yet few have ventured to offer any conjectures on the mode of their formation. But, in general, they have, Dr Baillie observes, been considered as imperfect attempts at the growth of a foetus in the ovarium, in consequence of the connexion between a male and a female. This conjecture rests, he admits, on circumstances of strong probability; but he thinks it is liable to many powerful objections. And, among other particulars, from the following case, he is led to believe, that the ovaria in women have some power within themselves, of taking on a process which is imitative of generation, without any previous connexion with a male.

In

In a female child about twelve or thirteen years old, which was lately brought to Windmill Street for dissection, Dr Baillie found the right ovarium converted into a substance, doughy to the touch, and about the size of a large hen's egg. Upon cutting into this substance, he found an apparently fatty mass, intermixed with hair and an excrescence of bones. This startled him very much, as he had always been led to believe, that such appearances were a sort of imperfect conception; and, the circumstances altogether being very singular, he was led to pay particular attention to them.

The fatty mass was of a yellowish white colour, in some places more yellow than in others; it was very unctuous to the feeling, and consisted of shortened and separated particles, not having the same coalescence which the fat has generally in the body. It became very soft when exposed to the heat of a fire, and sunk into a portion of paper on which it was spread, so as to make it more transparent. When the paper to which it was thus applied was exposed to the flame of a candle, it burnt with considerable crackling.

The hair with which the fatty substance was mixed, grew out of the inner surface of the capsule containing it, in some places in solitary hairs, but chiefly in small fasciculi, at scattered irregular distances. Besides these, there were loose hairs involved in the fatty mass. The hairs were some of them of considerable length, even to three inches; were fine, and of a light brown colour. They resembled much more the hair of the head than what are commonly found on the pubis, and corresponded very much in colour to the hair of the girl's head.

There arose, also, from the inner surface of the capsule, some vestiges of human teeth. One appeared to be a canine tooth; another to be a small grinder; two others to be incisors; and there was also a very imperfect attempt at the formation of another tooth. These were not fully formed, the fangs being wanting; but, in two of them, the bodies were as complete as they are ever found in common circumstances. They were each of them inclosed in a proper capsule, which arose from the inner surface of the ovarium, and consisted of a thick white opaque membrane.

Attached

Attached to the capsules of three of the teeth, there was a white spongy substance. The membrane of the ovarium itself was of some considerable thickness, but unequal in the different parts. It was very smooth in its inner surface, and more irregular externally. The uterus was smaller than it is commonly at birth; was perfectly healthy in its structure; and, upon opening into its cavity, it exhibited the ordinary appearances of a child's uterus at that period. The left ovarium was very small, corresponding to the state of the uterus. From this it appears, that the uterus had not yet received an increase in bulk, which is usual at the age of puberty. The hymen was entire, such as is commonly found in a child of the same age; and there was just beginning a lanugo upon the labia, not more than is often found on the upper lip of a boy of fifteen years old.

From this singular appearance, the circumstances of which have been now related, Dr Baillie next proceeds to draw some conclusions. It naturally, he observes, strikes the mind as being very different from any irregular substance formed by disease. It took place in a

part of the body which is subservient to generation, and where a complete foetus is sometimes formed. This might seem to lead to the conclusion, that the production of hair and teeth in the ovarium was a sort of imperfect impregnation. But he thinks there are reasons, at least equally strong, for believing that such productions may arise from an action in the ovarium itself, without any stimulus from the application of the male semen.

In the case which has just been related, the uterus was as small as at birth; and the left ovarium corresponded to the state of the uterus. It had not been stimulated, nor did it appear capable of being stimulated, by the application of the male semen. This he considers as a strong circumstance; for a preparation is still preserved in the collection of Windmill Street, made by the late Dr Hunter, where an ovum was formed in one of the Fallopian tubes, and the uterus was enlarged to more than twice its unimpregnated size. From this he concludes, that when impregnation takes place out of the cavity of the uterus, that viscus still takes a share in the action, and undergoes some of the changes of impregnation.

nation. And, to the same conclusion respecting the action of the uterus in the formation of an extra-uterine foetus, he is led also by other preparations, particularly from one, preserved also in Dr Hunter's collection, where a foetus was formed in the ovarium, in which the uterus was increased to more than twice its ordinary size, was very thick and spongy, and had its blood-vessels enlarged in the same manner as an impregnated uterus. But, in the present case, the uterus had undergone no change.

Dr Baillie farther remarks, that we are not to consider the formation of teeth in the ovarium to be a quicker process than it usually is in the head of a foetus. In this instance, however, the teeth having advanced fully as far as they in general are at some months after birth, their growth must, he thinks, have begun at least more than twelve months before the death of the child ; which, in his opinion, brings their commencement to an earlier period than impregnation can be believed to have taken place.

From all these circumstances, Dr Baillie is inclined to suppose, that the formation of hair

and teeth was not here the consequence of any connexion with a male, but arose from some action of the ovarium itself, in which the uterus did not participate. And, as some additional confirmation of the probability of this opinion, he observes, that hair is occasionally found in parts of the human body which are altogether unconnected with the function of generation. Hairs have often been found in encysted tumours; and Dr Baillie particularly mentions several preparations of this sort in the collection of Mr John Hunter. All these circumstances, he thinks, clearly prove, that hair may be formed without any species of generation.

But hair is as much a peculiar substance as teeth. If the one, therefore, can be preternaturally formed in the ovarium, no good reason can, he thinks, be assigned, why the other may not also be formed there. The action producing the one, is not, he observes, better understood than that producing the other. Teeth, therefore, he thinks, may probably be formed by a peculiar action taking place in the ovarium, as well as hair,

To add still farther weight to this opinion, he observes, that many of the adult teeth are formed in a child after birth ; and that, therefore, their formation depends on an action taking place in the jaw at a particular period, and not on original growth. Teeth are sometimes, also, occasionally formed at an advanced period of life. Both these processes, he observes, take place after the animal has been formed, in consequence of a certain action being excited in a particular part of the body. There is, therefore, he thinks, less difficulty in believing, that the same sort of process may go on in another part of the body not commonly employed in it. And, in his opinion, it is but reasonable to suppose, that the ovaria should have a greater aptitude of taking on a process somewhat similar to generation, than other indifferent parts of the body, as they constitute a part of the organs which are so materially concerned in the real process itself. From all these circumstances, taken collectively, he thinks it is rendered very probable, that the formation of hair and teeth in the ovarium does not necessarily depend, as has been the common opinion, on a connection

between a male and female, but arises from some action within the ovarium itself, which is imitative of generation.

How far the intelligent reader will be disposed to adopt this theory, we will not pretend to conjecture. We must, however, observe, that we readily agree with the ingenious author of this paper, in thinking, that there is no reason for supposing the generation of hair and teeth, in the fatty substance found in the ovarium, in the case related above, was the effect of any connection with a male; but perhaps a conjecture, more simple than any supposed action of the ovarium itself, imitative of generation, may be suggested with respect to their production. Although teeth, in general, appear only after certain periods of life, and in an established succession; yet it is well known, that the rudiments of all of them are discoverable in the jaw of a foetus at a very early period of its existence. The teeth, as the ingenious Mr John Hunter has justly observed, though deriving their growth and nourishment from the system, may yet be viewed as aliens to the body. This observation is no less applicable to the hairs. Each hair, found either
upon

upon the head, or any other part of the body, derives its origin from a particular bulb, as much as a tooth does from its original rudiment. May we not, therefore, suppose teeth and hair to grow in the ovaria, from some monstrous conformation of parts forming there the rudiments or bulbs of each? and may not this monstrous conformation be peculiar to the ovaria, from that function for which they are naturally intended? For, although generation is still to be viewed as one of the greatest mysteries in the animal œconomy, yet there can be no doubt, that the ovaria have a concern in that function; and that thus they are subservient even to the production of a complete foetus, furnished both with hair and with teeth. But it is alone from future observations of facts, that even probable evidence, either of this or any other conjecture, can be obtained.

XXII.

A Dissertation on the Climate of Russia. By Matthew Guthrie, M.D. Physician to the Imperial Corps of Noble Cadets at St Petersburg, F. R. SS. Lond. & Ed. With two Letters from his Excellency M. Æpinus, Counsellor of State, Knight of the Order of St Anne, &c. Vide Transactions of the Royal Society of Edinburgh, Vol. II. 4to, Edinburgh.

IN a former volume of this work, (Vol. II. Dec. II.) the ingenious author of the dissertation now before us, presented to the public some observations on the effects of a cold climate as tending to induce diseases, and particularly as giving rise to genuine scorbutus at land, raging in all its most menacing forms. He then also hinted a design of endeavouring to trace the influence of a cold climate on the human

human body, and its diseases, which he imagined might form a contrast with the many accounts published, of late years, relative to the effects of hot climates. This, it will readily be admitted, is a subject meriting investigation, both as an object of science in general, and of medicine in particular.

In treating of this subject, Dr Guthrie proposes, in one paper, to give a history of the Northern climate, and in another to point out its physical influence, as it appears in the capital of Russia, St Petersburg, where he has resided for many years. In the dissertation now before us, we are presented with his remarks on the first of these subjects; in treating of which, he has had recourse to the meteorological register, kept in the Imperial Academy of Sciences, as being more to be depended upon than that of any individual. He has adopted the Academy's division of the year into two seasons, Winter and Summer; as, in fact, there are but two in that climate, the one running into the other, without leaving well defined intermediate periods, to answer to what are called Spring and Autumn in temperate climates. He follows the plan
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of the Academic register, in prefixing to each season an enumeration of the common phænomena which take place in it; such as, the quantity and duration of frost, snow, rain, &c. And all his calculations are taken from the mean of fifteen years, according to the register of Professor Euler, Perpetual Secretary of the Imperial Academy of Sciences. In that register, De Lisle's thermometer is employed; but Dr Guthrie has added the comparative degrees of Fahrenheit and Reaumur, as being in common use in other parts of Europe.

He begins by treating of the Russian Winter, which he thinks deservedly claims the first attention, both from its duration and consequences. The duration of the Winter is generally from the end of September to the beginning of May; although, occasionally, there is very pleasant weather in April, notwithstanding the morning and evening frosts. But, if Winter is to be defined by the mean term of frost and snow, it must be dated from the beginning of October to the beginning of May, comprehending a period of about two hundred and thirty days of the year. The term, however, for which the rivers remain frozen,

frozen, is much shorter, and may be reckoned from the twenty-seventh of November to the nineteenth of April, including about one hundred and sixty days of the year.

Dr Guthrie here presents us with some observations on the thickness, and other phænomena of the ice. By February, he observes, the ice has acquired the astonishing thickness of about three quarters of an English yard; and, what is no less surprising, it has not lost above a third of this, when it has become so weak at the breaking up of the rivers, as not to support the weight of a dog. At this period, from paying peculiar attention to the appearances, he has found the mass composed of a number of long solid crystals, resembling in some degree the pipes of an organ, each about half a yard long, but almost without adhesion; so that the mass seems to have lost little else, as he thinks it may be termed, than the cementing principle which bound these crystals together. The idea of the ice being reduced to a thin pellicle, by the action of the sun on its upper, and the water on its under surface, is, he observes, merely a vulgar prejudice. He is inclined to
suppose

suppose the conducting power of ice, with respect to sound, to be very great ; but he has not himself made experiments on this subject. He gives an extract, however, of a letter from a friend, who had walked out to a great distance on the ice, at the time when cannon were discharged from a fort. Before hearing the usual report through the air, this gentleman was sensible of a disagreeable ringing sound from the ice, much more violent than the report itself.

Dr Guthrie next presents us with a register of the weather for the Winter months. The greatest cold in Russia, is in general about 196 deg. of De Lisle, which is equal to 24 deg. below 0 of Fahr. and commonly obtains in January. The medium cold in the afternoon, is 154 deg. equal to 27 deg. of Fahr. above Zero ; and, in the night, it is 162 deg. equal to 23 deg. of Fahr. Dr Guthrie farther remarks, that the thermometer has sometimes a surprising range during the Winter, so as to produce a change of temperature, in twenty-four hours, from 23 to 57 deg. of Fahr. ; a circumstance which cannot fail to be trying to delicate constitutions.

With

With respect to the pressure of the air, the highest state of the barometer is 28.87 Paris inches; and this oftenest occurs in January. The lowest, 26.99; and this, again, oftenest occurs in November. The mean height is 28.02.

The prevailing wind, during the Winter, is the West; the number of days during which it blows from that point being nearly double those during which it blows from the East.

The quantity of melted snow and rain does not, Dr Guthrie tells us, in the six Winter months, amount to more than five Paris inches, although the whole surface of the Northern countries is covered with snow to a considerable depth, over which sledges are driven, without distinguishing land from water. Hail, Dr Guthrie tells us, is a rare phænomenon in this season; and tempests are equally uncommon with hail. The aurora borealis frequently illuminates the hemisphere, appearing about sixteen or seventeen times during the six months of Winter. Paraheliums, or mock moons, are frequently seen in the North; and Dr Guthrie is of opinion, that frozen mists or vapours make these phænomena more frequent

quent in Russia, than in the temperate climates.

Dr Guthrie's account of Winter, is concluded with some general observations on the Winter atmosphere. The air, he observes, though cold, is remarkably pure and elastic, so as to give a most surprising degree of spring and tone to the human frame. At this time, he tells us, the atmosphere is most astonishingly electric, even more so than during violent thunder storms in Summer, if a judgment can be formed from the great power of electric machines, as well as from other phenomena. It might be supposed, that from the severity of the frost, the Russians would suffer much during the Winter. But Dr Guthrie thinks, that people in easy circumstances, who are not obliged to remain much out of doors, suffer less in Russia than in most other countries; as, in their apartments, there reigns constantly a Summer heat, in which flowers blow all the Winter; and, when out of doors, the warm fur dress, with the skin furniture of the sledges, keep the body so comfortable, that, Dr Guthrie is convinced, less cold is felt in driving through the streets of Petersburg, in their dry cold
air,

air, than through those of Edinburgh or London, during the cold moist weather which obtains there for a great part of the Winter; especially as the state of the atmosphere, in Britain, is often accompanied by bleak winds; while the air in Russia, during their greatest cold, is generally serene and calm.

It has often, Dr Guthrie observes, been considered as affectation, both in the natives of Russia, and in foreigners who have resided long there, that they complain of cold, during Winter, in the temperate climates. But when we take into consideration their mode of living at home, we can readily understand why they suffer from cold in countries where neither the houses nor dress are calculated to keep it from constantly acting upon the body, during a certain period of the year.

Spring, as Dr Guthrie had formerly observed, can hardly be said to exist in Russia, the seasons of Winter and Summer running into each other, almost without any sensible intermediate one. Our author thinks it probable, that the sudden commencement of the Summer, on the finishing of the thawing process, may be accounted for, in some degree,

by Dr Black's theory of latent heat. For, as water requires a great portion of sensible heat to resume its fluid form, of course a large proportion of that heat, furnished by the Sun, will be absorbed until the whole snow and ice be dissolved; but, after this, all the influence of the Sun will be at once received.

The Russian Summer, during a good season, presents exactly the opposite extreme to Winter; the former being nearly as hot as the latter is cold. It is, Dr Guthrie observes, remarkable, that the thermometer falls to 24^r deg. below the freezing point on Reaumur's scale, during the greatest cold of a Russian Winter, and rises to the same number of degrees above it, during the greatest heat of Summer. The greatest height of the thermometer in Summer, by De Lisle's scale, is 106 deg. equal to 85 deg. of Fahr.; and this commonly happens in July or August. The least heat is 144 deg. of De Lisle, equal to 41 of Fahr.; and this commonly happens in May or October. The medium heat of the afternoon, is 127 deg. of De Lisle, equal to 59 deg. of Fahr.; and the medium heat of the night, is 136 deg. equal to 49 of Fahr. The barometer,

meter, at the highest, is 28.42, which happens oftenest in May; and at the lowest, 27.50, which happens oftenest in September. The medium height is 28.04 Paris inches. The wind which predominates in Summer, as well as in Winter, is from the west. The medium quantity of rain which falls in the six Summer months, is 11 Paris inches. There is, in general, about eighty rainy days, and seventeen foggy ones, during this season. About eleven or twelve days are observed to be tempestuous; two or three to have showers of hail; and there will be about eight or nine appearances of the aurora borealis.

During the course of Dr Guthrie's observations, he discovered a singular fact with regard to the heat of the earth. On the 19th of April 1789, when Reaumur's thermometer stood at 7 deg. above Zero, he found the heat of the earth, in a soft bed one foot from the surface, only half a degree above the freezing point; but, next day, he was astonished to find it at 5 deg. above it, although the thermometer in the air had not altered its position, but was still at 7 deg. nor had the sun shone out in the interval; so that this surprising

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change

change of heat in the earth, seems to have been effected by a shower of rain, which fell between the two observations. This, Dr Guthrie considers as a strong confirmation of the hypothesis, that rain water contains a large portion of latent heat, and probably of electric matter. Hence, he observes, it is not surprising if plants should, under certain circumstances, as it were, start suddenly out of the earth after a shower of rain; as they receive so large a supply, not only of moisture, but likewise of heat, and perhaps a vivifying principle, from the stimulus of the electric fluid carried down by the air.

The state of the atmosphere during the Summer, in Russia, is in general, according to Dr Guthrie, pretty fixed; and the air is very serene and clear, both during the day and night, notwithstanding a heavy dew, which falls from the setting to the rising of the Sun, and which serves for watering the plants during the hot dry season. Dr Guthrie was much struck with observing, that an excellent hygrometer, hung within doors, with the windows open, indicated a greater degree of humidity, on a fine Summer evening, than during

ing the most continued rainy weather: so much higher is the saturation of the air with water, and so much greater is its diffusion through it, than when it falls in the form of rain. He thinks it also worthy of remark, that the sultry debilitating period has a much greater effect on foreigners than on the natives of the North. While foreigners can scarcely take any exercise out of doors, with the sun high above the horizon, without feeling a species of debility, the natives carry on even the hardest labour, without much apparent fatigue. This, he thinks, may probably be accounted for by their constant use of the vapour bath, heated to a degree insupportable to a foreigner, while, from habit, they can bear it with perfect ease. Another circumstance, which, he thinks, contributes to produce this peculiarity, is their living at home for almost eight months of the year, in a constant heat, from about 68 to 78 deg. of Fahr. Nay, even during the Summer, the ovens of their cottages are obliged to be pretty constantly heated, each peasant baking his own bread at home, and dressing his victuals in them.

To this dissertation of Dr Guthrie's, are subjoined two letters from his Excellency Mr Æpinus, on electrical phænomena. In these letters, after recounting several very remarkable phænomena occurring during intense cold weather, he particularly mentions what happened in the case of Prince Orloff, and his Imperial Highness the Grand Duke. With the former, Mr Æpinus found, that at every time his valet-de-chambre drew the comb through his hair, when at his toilet, a strong crackling noise could be heard; and, on darkening the room, by drawing the curtains, the sparks were seen following the direction of the comb in great abundance; whilst, by this operation, the Prince was become so completely electric, that strong sparks could even be drawn from his hands and face. His Imperial Highness the Grand Duke, a few days after this scene with the Prince, sent for Mr Æpinus, to shew him a surprising experiment that he had just discovered. When Mr Æpinus came, his Highness threw himself upon his bed, which was covered with a damask quilt, laced with gold; and, upon rubbing it with his hands in all directions, the
young

young Prince appeared to be swimming in fire; as, at every stroke, flames arose all round him, which, darting to the gold-lace border, run along it, and up to that of the bed, to the very top.

After particularly relating these, and several other curious phænomena, which might be considered as striking effects of the electric state of the atmosphere, occurring during a great degree of cold which had continued for several weeks, Mr *Æpinus* enters into much ingenious reasoning, with a view to explain this disposition of the air. The result of all his reasoning is, that after the great cold in Russia has continued for a certain time, not only air, but also silk, hair, wool, and similar bodies, are in fact drier than during the rest of the year, and probably more so than in any other part of Europe, unless they be dried expressly by some artificial means. The consequence of this is, that the bodies above mentioned become spontaneously much better ideo-electrics in Russia, during the cold weather, than they ever are in any other season or climate. Hence these bodies have an extraordinary disposition to become easily and strongly electric.

After endeavouring, in his first letter, to prove, that great cold renders the air dry and pure in a most astonishing degree, and that the heat which it afterwards receives in apartments, renders it drying in a proportion equally surprising, Mr Æpinus, in a second letter to Dr Guthrie, endeavours to account for another remarkable circumstance from this cause, besides the electrical phænomena mentioned above. He observes, that when a severe frost has lasted for a certain time, without intermission, the Russians in vain strive to prevent feeling its effects on their own bodies, as well as on their furniture. They find themselves attacked with a disagreeable sensation, which, as far as it can be described, consists in a sort of lassitude, and heaviness or torpor, affecting both the mind and body, joined to a troublesome restlessness and inquietude. Mr Æpinus thinks it not improbable, that the drying quality of the chamber atmosphere should produce the sensations above enumerated. Perspiration, he thinks, must be much increased by this state of the atmosphere; and this consumption of excreted fluids may possibly,

sibly, he imagines, extend to the nobler fluids necessary to the functions of the animal œconomy ; such as vital spirits, if they have any existence. This idea he thinks the more likely, as it is known that the dissolving power of air is not confined to water alone, but extended to many other bodies.

If this conjecture be well founded, Mr Æpinus observes, that there is an easy way to prevent the sort of disease which he has described ; for, although slight and of little consequence, it may, he thinks, be reckoned a disease. For removing it, nothing farther is necessary, than to give back to the air the humidity of which the frost had robbed it. And this may be done, either by promoting the evaporation of a certain quantity of water in the room ; or, what is a more convenient mode, by hanging up a cloth of a proper size, dipped in water, and wetted from time to time.

We need hardly remark, that the observations here offered, on the history of a northern climate, will naturally attract the attention of the inquisitive philosopher. And we have no
doubt,

doubt, that the observations which Dr Guthrie has promised on the physical influence of this climate, which he reserves as the subject of a future dissertation, will convey important knowledge to the industrious physician. It is therefore earnestly to be wished, that he may soon present it to the public.

SECT.

S E C T. II.

Medical Observations.

I.

Observations on the Puerperal Fever ; more especially as it has of late occurred in the Lying-in Hospital of Dublin. By Joseph Clarke, M. D. Licentiate in Physic of the Royal College of Physicians in Dublin, Master of the Hospital above mentioned, and M. R. I. A.

1. **B**Y Puerperal Fever, I mean a disease which generally attacks women on the second or third day after delivery. Its ordinary symptoms are, a cold shivering fit, acute pain in some part of the cavity of the abdomen, and great tenderness when pressed externally ; a rapid pulse ; and these soon succeeded

ceeded by considerable distension of the abdominal cavity.

2. During the puerperal state, symptoms, somewhat similar to these, not unfrequently arise, and continue rather alarming, till the intestines are emptied by purgative medicines. It may be difficult, therefore, in the beginning, to distinguish puerperal fever from accumulations of *fæces* in the alimentary canal, especially if joined to an *Ephemera*, or *Weed*.

3. When the symptoms (enumerated in paragraph first) continue beyond the period of twenty-four hours, which is the ordinary duration of an *ephemera*, and after the operation of purgative medicines, I consider the existence of puerperal fever as absolutely ascertained; and it will be found to prove fatal to a great majority of those whom it attacks.

4. A disease is described in the works of Hippocrates, and some other old writers, which, in many particulars, resembles puerperal fever; as may be seen in Dr Hulme's excellent treatise on this subject. But we have no account of this fever appearing as an epidemic in Lying-in Hospitals, till the year 1746; since which, its frequent occurrence, and fatal effects,

effects, have made it an object of very serious attention among physicians ; infomuch, that it has of late become the subject of many treatises, both in France and England.

5. It may appear, therefore, superfluous, perhaps presumptuous, in me to draw farther attention to a subject so hackneyed. I have been induced to do so, because the opinions of writers are so widely different from each other, both on the theory and treatment of this fever, that the inexperienced practitioner must be totally at a loss what course to pursue. Besides, in searching after methods of cure, not one of which has hitherto proved even moderately successful, authors have lost sight of, and been almost silent on, the means of putting a stop to its progress in hospitals, or perhaps of preventing its existence entirely. With the view of throwing some light on these particulars, the following facts and observations are, with deference, submitted to public consideration.

6. To shew the importance, and prove the necessity of such an enquiry, I beg leave to premise a short sketch of the appearance and effects of this fever in hospitals, so far as these
are

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are well authenticated. In the memoirs of the French Academy of Sciences for the year 1746, we are informed, that during the Winter of that year, an epidemical disease was observed to prevail, with great violence, among the lying-in women of the Hotel Dieu of Paris. In the month of February, of twenty seized with it, hardly one escaped. From the history and appearances on dissection, there can be no doubt this fever was similar to that we now call Puerperal.

7. In the year 1760, (which is about eleven years after the first institution of Lying-in Hospitals in England), the puerperal fever was epidemical in London. From the 12th of June till the end of December, Dr Leake informs us*, that twenty-four women died of it in the British Lying-in Hospital.

8. In the year 1761, Mr White of Manchester says †, “ A gentleman, whose veracity I
“ can depend on, informs me, that he attended
“ a small private lying-in hospital in London,
“ in

* Practical Observations on Child-bed Fever, last page.

† Treatise on the Management of Lying-in Women, &c. Chap. VI. Page 165.

“ in the latter end of May, June, and beginning of July ; during which time, the puerperal fever was very fatal there. That, to the best of his recollection, they lost twenty patients in the month of June. They sometimes buried two women in one coffin, to conceal their bad success.”

9. In the year 1770, this fever raged violently in several of the London hospitals. In the Westminster hospital†, between November 1769 and May 1770, of sixty-three women delivered, nineteen had the fever, and fourteen died ; which is nearly every fourth woman.

10. In the British Hospital, of eight hundred and ninety delivered in the course of this year, thirty-five died, or one in fourteen and a half.

11. In a third hospital, which Mr White has not thought proper to name‡, during the year 1771, of two hundred and eighty-two delivered, ten died, or one in twenty-eight.

12. In the year 1773, the puerperal fever appeared in the lying-in ward of the Royal
Infirmery

† Leake's Practical Observations, &c. Page 241.

‡ Postscript to Mr White's Treatise, Page 305.

Infirmary of Edinburgh, of which the late Professor Young gives the following account:

“ It began about the end of February, when
“ almost every woman, as soon as she was de-
“ livered, or perhaps about twenty-four hours
“ after, was seized with it; and all of them
“ died, though every method was used to
“ cure the disorder. This disease did not ex-
“ ist in the town. I found that the women
“ in the lying-in ward did not recover so well
“ last year as formerly; but scarcely any died.
“ It was this made me think there was a lo-
“ cal infection, and determined me to shut up
“ the ward till it could be removed. This I
“ did, after losing six women.”

13. In the year 1782, the Royal Medical Society of Paris was ordered, by the King of France, to make a report of a Memoir of the late Dr Doulcet, containing a new method of treating the puerperal fever. This very respectable society informs the public, that puerperal fever has made its appearance more frequently than ever in the Hotel Dieu of Paris since the year 1774; and that it had always proved fatal to every person it attacked. They further report, that, in four months, during

during which this epidemic disease raged with great fury, near two hundred women were saved to society by Doulcet's new method of treatment; of the success of which, in this country, we shall give some account in the sequel.

14. In the year 1786, a report was published in Paris, by a Committee appointed by the Royal Academy of Sciences, to enquire into a plan of a new Hotel Dieu. In this report, it is stated, that, in the year 1774, an epidemic disease prevailed among the lying-in women, which committed the greatest ravages; that it re-appeared every Winter till the year 1781; and that, still, it prevails more or less in the cold seasons. These facts are taken from Memoirs communicated to this Committee by Mr Tenon; by which it also appears, that all women, seized with this epidemic, die; and that, of twelve, seven are frequently attacked. Their conclusion is, "L'Hotel Dieu donc perd quelquefois plus de la moitié des femmes qui y vont accoucher."

15. The puerperal fever first visited the Lying-in Hospital of Dublin in the year 1767, about ten years after it was first opened for

the reception of patients. From the first of December till the end of May, of three hundred and sixty women delivered, sixteen died.

16. Seven years afterwards, this fever re-appeared. Of two hundred and eighty women delivered during the months of March, April, and May, in the year 1774, thirteen died.

17. From the year 1774 till the year 1787, this fever was unknown as an epidemic in Dublin. From the 17th of March, in this year, till the 17th of April, one hundred and twenty-eight were delivered in the hospital; eleven of whom were seized with symptoms of puerperal fever, and seven died.

18. In November 1788, the same fever appeared, for the fourth time, since the institution of the hospital. During this, and the two succeeding months, three hundred and fifty-five women were delivered; seventeen were attacked by this fever, and fourteen died.

19. The management of the Lying-in Hospital in Dublin having been intrusted to me, during the occurrence of the last two epidemics, my observations will, of course, be principally

cipally confined to them ; and, as my design is not to make an essay on puerperal fever, but to supply some supplementary facts, I hope to be excused for passing over several parts of the subject with brevity.

20. During Spring 1787, the temperature of the air was in general very cold, with sharp winds from the east and north-east. Inflammatory diseases were more prevalent among our patients than usual ; particularly, acute rheumatism. Some were affected with severe pains in the thorax, and difficult respiration. In consequence of these complaints, we were obliged to have recourse to venesection more frequently, during February and March of this year, than during the twelve preceding months.

21. It was a general observation, that our patients recovered slowly ; or, to use the language of the nurses, it was much more difficult to get them out of bed than usual. This was peculiarly distressing, as the admission of poor women was now very numerous, probably on account of the severity of the weather. Contrary to our established custom, we were sometimes obliged to put two in a bed,

rather than refuse admittance to those who solicited it at our gates.

22. As a considerable time had elapsed since our wards had been painted and white-washed, I thought it probable, that these circumstances might contribute to the slow recovery of our patients. Application was therefore made, in the month of February, to a Board of the Governors of the Hospital, for an order to have the wards repaired. It was apprehended that the expence might be considerable; and the funds of the charity being then low, the Secretary was desired to give notice, that he would receive proposals for doing the business by contract.

23. While we were thus waiting in expectation of repairs, the puerperal fever began to make its appearance, and in a very treacherous manner. The first woman was attacked on the 18th of March, and the second not until the 31st; the third, on the 3d of April; the fourth, on the 7th; the fifth, on the 10th; the sixth, on the 11th; on the 14th, two; on the 15th, two more: and one on the 17th. It was not, then, till the middle of April, that

its

its progress began to be rapid, and its nature as an epidemic clearly ascertained.

24. The symptoms of this fever corresponded so nearly with what Doctor Hulme has well described, that a very few remarks will suffice on this subject. It always began with a distinct chilliness or shivering. The pain in the cavity of the abdomen was not more frequent in one part than another; nor was the tenderness so great as to be much affected by such trifling causes as the pressure of the bed-clothes. Little or no vomiting appeared in any stage of the disease; no delirium; no unequivocal marks of putrescency in any part of the system. The pulse, in general, beat from one hundred and twenty to one hundred and forty strokes in a minute. The lochial discharge and secretion of milk were not subject to any general law. Sometimes they continued regular for a short time, and sometimes were suppressed from the beginning. They have never appeared, to me, more deranged in this, than in other disorders where the circulation of the blood is equally disturbed.

25. The appearances, on dissection, of the bodies of six patients, who died of this fever,

were not materially different from what have been described by writers who have seen the disease in hospitals. In all our subjects, the omentum appeared inflamed, and wasted in substance, but in no instance mortified. I am inclined to think, from numerous observations, that those writers who have described mortification of the omentum, and some other parts of the abdominal viscera, allowed the dead bodies to remain too long after death before they inspected them. In all our dissections, the peritoneum appeared every where unusually vascular and inflamed. Next to the omentum, the broad ligaments of the uterus, the cæcum, and sigmoid flexure of the colon, seemed to suffer most by inflammation. We always met with more or less of a turbid yellow, and sometimes fœtid fluid, floating among the intestines; coagulated purulent-like masses, adhesive inflammation, glueing the intestines to each other, &c. In no instance did the appearances of inflammation seem to penetrate deeper than the peritoneal coat, on any of the viscera of the abdomen or pelvis.

26. The most probable supposition which has hitherto been made of the proximate cause
of

of this disease, is, that it consists in an inflammation of the peritoneum; and hence, the nosological name of Peritonitis has been given to it by Doctor Forster. This hypothesis appears to me to be more consistent with the appearances on dissection, and to afford a more rational explanation of them, than has hitherto been given. Why does the omentum appear to suffer more than other parts in this disease? Probably because it is peculiar to it to be composed of four folds, or a quadruple peritoneum; and, of course, it ought to exhibit appearances of inflammation four times greater than parts simply covered by this membrane. Next to omentum, the duplicatures of the peritoneum are most affected, and especially the broad ligaments of the uterus.

27. Most of our patients, attacked in the year 1787, were admitted in a weakly state, or had tedious and fatiguing labours. Four of those, who died, were cases of first children. Two appeared to be ill during labour, and continued so, without intermission, after delivery. One of them died in thirty-six hours; and the other lived till the sixth day. Three were attacked on the second day after
U. 4 delivery,

delivery, and died on the seventh, or of five days illness. One was attacked on the fourth, and died on the tenth. One was very distinctly attacked on the ninth day, as she was sitting by a good fire, and died on the twelfth. Notwithstanding the short duration of this patient's disease, from five to six pounds of a yellow foetid fluid were found floating in the cavity of the abdomen, and a great deal of adhesive inflammation.

28. The attic story of our hospital, on which all our patients are delivered, is separated into four great divisions, each consisting of a great ward, and two small ones. The former contain seven, and the latter two beds each. To each division, a maid-servant and nurse-tender are allotted. I mention these circumstances, in order to render a remarkable fact intelligible, *viz.* one of these divisions did not lose a single patient by the puerperal fever; whereas the mortality among the other three was nearly equal, though, upon the whole, there was a greater number of women sick in two of these divisions, which have a southern aspect.

29. Such

29. Such partial distribution of disease, joined to circumstances already mentioned, (21. 22.) rendered it probable, that this fever derived its origin from local contagion, and not from any thing noxious in the atmosphere.

30. Influenced by this probability, we proceeded, on the 17th of April, to shut up the two great wards in which disease was most prevalent. The sick contained in them were put into the adjoining small wards, until their fate was determined; and the remainder were put into the opposite great wards. The walls and ceilings of the wards evacuated, were white-washed without delay. The bedsteads and all the wood-work were painted. Every thing belonging to the bedding, that it was possible to wash, was scoured, and the remainder exposed for days to the open air. Great fires were kept on by day, and at night the windows were kept open. In this manner, we went round every apartment in the hospital which had been occupied by patients.

31. The consequences of this practice were extremely favourable. From having been most disagreeably harassed by disease, the hospital became remarkable healthy. During
the

the remainder of the year, of nine hundred and sixty women delivered, we lost only three: and two of these bore twins; a circumstance which I have elsewhere* proved to lessen considerably the chance of the mother's recovery.

32. During the first ten months of the year 1788, one thousand two hundred and fifty-five women were delivered; of which number, thirteen died. As admission was more promiscuous and numerous during this than any former period, many were received, labouring under dangerous disorders; and two were actually in a dying state from mismanagement. Under such circumstances, the loss of nearly one in a hundred could not be considered as great. Not one of the thirteen, however, died of puerperal fever.

33. On the 18th of November, one woman was attacked with this fever; on the 8th of December, another; on the 21st, two; on the 23d, one; on the 28th and 29th, one each day; on the 31st, one; on the 3d of January, one; on the 6th, one; on the 14th, two; and, on the 16th, one. Every one of those, in which the disease was marked, as
described.

* Philosophical Transactions, Part II. 1786.

described (3.), proved fatal; whereas, of five cases, attacked on the 4th, 7th, 16th, 20th, and 22d, with doubtful symptoms, none died.

34. From the 18th of December till the 23d of January, thirteen women were affected with symptoms of general fever, without any appearance of local disorder in the abdomen. All these continued beyond the usual period of ephemeræ. Two of them only died: one on the 8th, the other on the 17th day from the attack. Many of these febrile disorders, I was inclined to attribute to the fears and apprehensions naturally excited by the numerous deaths produced by puerperal fever.

35. The symptoms of this epidemic did not differ essentially from that of 1787. In several cases, the pain of the abdomen, and consequent tumefaction, were less severe; and hence, probably, it happened, that, in some instances, the duration of the disease was protracted to an unusual length. The days of attack were as follow:

One, four days before delivery.

One on the day of delivery.

Eight on the second day; and

Three on the third.

Their

Their deaths happened as underneath :

Two died on the 2d day.

Three ————— 4th day.

Two ————— 5th day.

One ————— 7th day.

Two ————— 8th day.

One ————— 10th day.

One ————— 11th day.

One ————— 12th day.

36. In several of the above cases, the stomach and intestines shewed very unusual degrees of insensibility to the operations of medicines. One took tartar emetic, in solution, to the quantity of sixteen grains, before it operated as an emetic. Another took forty-five grains of ipecacuanha, in doses of seven grains and a half, every hour, to have a similar effect. Not unfrequently, we were obliged to assist the operation of ipecacuanha, as lately recommended by the Royal Medical Society of Paris, with a solution of tartar emetic. In a few cases, the milder purgatives produced no effect on the intestines; and we were obliged to have recourse to cathartic extract and calomel; to irritating glysters of decoctions of senna-leaves, tobacco, &c. Such
insensibility

insensibility we always considered in an unfavourable light, as marking great derangement in the functions of the nervous system. Some patients, during this epidemic, were affected with delirium before death.

37. It was further remarkable of this epidemic, that the ward exempt from sickness, during the preceding attack, was now one of the most sickly; and one of the most sickly, in the first, was now one of the most healthy, although still under the care of the same nurse-tenders.

38. Having observed, from the historical facts already recited, of puerperal fever, that it seldom appeared more frequently in hospitals than once in ten or twelve years, I had not the most distant apprehension of its returning in a space of twenty months. The first two or three cases, happening at distant intervals of time, were considered as accidental. However, observing the mortality to continue, although slowly, I began to suspect that the beds, from having been in constant use, might have acquired some noxious properties. But as they had been scoured a few months before, I hoped that, by exposing the matresses

to a strong fire, and then to the open air, they might be sufficiently purified. The blankets, quilts, &c. were also ventilated. These measures only served to produce some insidious intervals, during which the disease seemed to abate, (see 33.) At length, we were compelled to have recourse to the same expensive and troublesome processes of white-washing, painting, &c. as before, and with the same salutary effects. Every symptom of fever subsided, as our patients were received into clean wards. Of one hundred and fifty, admitted after our resort, scarcely one had any serious illness; and we were tolerably healthy during the remainder of the year.

39. The late Dr Young, of Edinburgh, is the only writer who has recommended measures similar to what we pursued, for putting a stop to the progress of this fever. In a letter to Mr White of Manchester, he says, "After losing six women, I then washed and
"painted the wards; caused all the bedding
"to be removed; and fired gun-powder at
"different times in the wards. I had a num-
"ber of chaffers filled with cinders, which
"burnt all night; and all the windows were
"opened

“ opened through the day. This operation
 “ lasted about a fortnight, when I furnished
 “ the wards with new bedding ; put no cur-
 “ tains to the beds ; and, by this, put an en-
 “ tire stop to the disease.” Why similar mea-
 sures have not been practised in France and
 England, to stop the progress of puerperal fe-
 ver in hospitals, I am at a loss to explain.

40. The preceding facts appear to me fully to warrant this conclusion, that whenever three or four women die of the puerperal fever, within a short time of each other, *local infection* ought to be suspected to exist, and particularly in the building ; and that the most vigorous measures ought to be immediately adopted, in order to destroy this source of the disease.

41. And, to prevent the generation of such infection, I have no doubt, that Lying-in hospitals, whose beds are in constant use, ought to undergo, annually, a refit, such as already described, excepting only the article of painting. The bedding of every woman who dies, should be instantly carried out and scoured, before it is replaced. Whenever a ward happens to be empty for a day or two, its
 beds

beds should be stripped, and exposed to a current of air, night and day, instead of the usual practice of covering them up by blankets, &c.

42. Probably, also, a ward more than is actually necessary for the ordinary business of an hospital, might be converted to very useful purposes. It would permit each ward, in rotation, to be in airing, (if the expression may be allowed), for a week, two or three, as might be thought adviseable. In this way, the ill effects arising from constant use, might probably be prevented. This is a scheme which was strenuously recommended to a Governor of the Lying-in hospital of this city, by the very benevolent Mr Howard.

43. I am persuaded, that precautions of this nature, if duly attended to, would greatly lessen the frequent recurrence of puerperal fever in hospitals, and they might perhaps destroy its existence entirely as an epidemic. It will no doubt continue, occasionally, to occur both in hospitals and private practice, from such accidental causes as tend to excite inflammation in the cavity of the abdomen; but that it must, of necessity, exist as an epidemic, I doubt very much.

44. Most

44. Most writers have positively asserted, that puerperal fever never affects women till after delivery; and yet, I have dated the attack of some of our patients at an earlier period. Several cases have occurred to me, in which it was clear, that some disease existed before delivery; and dissections after death, have exhibited all the appearances usually found after this fever. A case of this kind occurred so long ago as the year 1782, in which the patient died in thirty-six hours after delivery. A second case happened in the Autumn of the year 1786, where appearances were still less equivocal: A patient expired two hours after a tedious labour, apparently exhausted. On opening the cavity of the abdomen, on the following day, all the ordinary effects of puerperal fever were found very distinctly marked.

45. Having stated some cases of this very fatal disease to have terminated successfully, the reader may perhaps be anxious to know something of the practice pursued. All I have to observe, worthy of communication, in such methods of cure as have hitherto been recommended, will require but a few words.

46. Venesection, which is strenuously advised by Leake, Denman, and others, I have never seen of any use, excepting in a few cases, where there seemed to be a combination of peripneumonic symptoms along with peritonitis; and even in such cases, it only had the effect of alleviating the severity of symptoms.

47. Ipecacuanha, exhibited as directed by the Royal Medical Society of Paris, will sometimes seem to do essential service; in other cases, it will evidently do no good. How is this to be explained? We are directed to give seven grains and a half the instant a patient is seized with shivering, and to repeat the same quantity in an hour. Now, I assert, that when a woman in child-bed shivers, no man can tell, whether her disease is to turn out ephemera or puerperal fever. If the former, the ipecacuanha will apparently produce a cure; if the latter, it will seldom afford permanent relief. When ipecacuanha operates both as a laxative and an emetic, which not unfrequently happens, it will be found to have better effects than when its operation is merely emetic. But, so far from performing a cure in every instance, I have no hesitation to affirm, that it will

will not succeed in one of ten cases, where the disease is epidemic. I find by our medicine-book, that, during the month of January 1789, three ounces and an half of ipecacuanha were consumed, agreeably to the rules laid down by the Royal Medical Society of Paris; and yet, during this month, the mortality of our patients was very considerable.

48. Saline purgatives, and fomentations to the cavity of the abdomen, as advised by the late Dr Forster, and practised in the Lying-in Hospital of Dublin, since he served the office of Assistant Physician therein, appear to me to afford the most rational and probable prospect of relief in puerperal fever. But I can by no means join Doctor Forster, in saying, "That
 "no disease, of equally apparent danger, is
 "nearly so obedient to the laws of medicine;
 "and that all dangerous symptoms almost constantly vanish, upon the early and repeated
 "use of the medicines recommended by him." My experience is diametrically opposite to these assertions. When the disease is epidemic, or produced by infection, no method of cure, yet devised, will succeed in one of five cases. On the contrary, when the disease proceeds

ceeds from accidental causes, inducing inflammation, there will be reason to hope for better success, by pursuing steadily, for some days, the method of cure prescribed by Forster. Upon the whole, although I differ, in some particulars, from this physician; yet I cannot omit this opportunity of recommending to the inexperienced practitioner, such parts of his book* as relate to Puerperal Fever.

* Principles and Practice of Midwifery, p. 295, &c. first edition.

II.

Observations on the Influenza, as it lately appeared in the West Indies. By Mr C. Chisholm, Surgeon in St George's, Grenada.

THE epidemic catarrhal fevers, generally distinguished in Europe by the appellation of Influenza, are, I believe, very seldom met with within the tropics : for, in a period of twenty-six years, that is, from the cession of Grenada till the year 1789, an epidemic catarrh of this description occurred only twice in that island ; and the duration, extent, and violence of the disorder, when it appeared, were by no means very remarkable. Taking a general view of the nature of the climate, and not attending to the change of temperature, and direction of the winds, at the commencement of the Winter months, or what is called the dry season in the West Indies, colds and catarrhal fevers, one would imagine,

should be infinitely more rare than they are in the Torrid Zone ; but attentive observation shews us, that the occurrence of them should not be considered as an extraordinary circumstance. In fact, they are not ; for they always, more or less, afflict the inhabitants, in their more simple form, at the commencement of the dry season. But the universality, the duration, and the violence of the epidemic in question, and the changes which it, with the aid of the uncommon disposition of the atmosphere, which occurred soon after it appeared among us, produced in the human constitution, are very extraordinary, and have never been equalled in this island since it became a British colony.

From a number of coinciding accounts, it appears that this epidemic prevailed throughout all the continent of North America, and in all the West India islands, nearly at the same time. It appears from the following paragraphs of two New-England newspapers, that it raged there, and in the other parts of the continent, about the beginning of November ; and, at that time, it made its appearance here.

“ The Influenza, which has raged in the
“ Southern States, is so prevailing in this
“ town,

“ town, (Boston), that nine-tenths of the citi-
 “ zens now labour under it *.” — “ The Infla-
 “ enza, as it is called, which is now so com-
 “ mon among us, has raged greatly in Europe,
 “ as well as in the Southern States of Ame-
 “ rica, and to some has proved fatal †.” Some
 vessels, which arrived here about the end of
 December, from Halifax in Nova Scotia, New
 London, Norfolk, and Savannah, from whence
 they sailed about three weeks before, confirm
 these accounts. At Martinique, the violence
 of the disorder, during the early stages of its
 duration, was more conspicuous than any
 where else; and its fatality there was more
 remarkable, as, at that time, in this and the o-
 ther English islands, the symptoms did not
 shew any dangerous tendency.

It is certain, that its progress was from those
 islands which had a more direct and immediate
 intercourse with the continent of North Ame-
 rica, to those farther southward; and we have
 reason to conclude, from that circumstance,
 that its rapid propagation was owing to conta-
 gion, communicated by sailors belonging to

X 4

the

* Massachuset's Centinel, November 7th 1789.

† Ditto, — — November 12th —

the small vessels which carry on the Island-trade. This opinion seems to be further supported by the manner in which the epidemic made its first appearance at St George's and Grenville Bay, the two sea-ports of Grenada. About the beginning of November, some of these vessels arrived at St George's, from St Eustatius, St Kitts, and Dominica; at all which islands, it then raged universally. The negro sailors, who navigated them, were, at the time of their arrival, very much afflicted with it; and, being sent on shore to the houses of their respective owners, were lodged with the domestics, and other sailor negroes, who were then in a perfect state of health. In a very short time, that is, in the course of less than a week, all these were afflicted with it. During a fortnight, or between the time the Influenza first appeared in St George's, and the end of the month, its prevalence and universality were most astonishing. It attacked, indiscriminately, the Whites and Blacks, and very few of either colour escaped it. But, although thus general, it was not, by any means, at that time, attended with any alarming symptom. Its progress, from the town to
the

the country, was remarkably gradual; and diverging, as from the centre of a circle, it appeared on the estates nearest town first, and on the others afterwards, in proportion to their distance from it. In one instance, however, this gradual progression was not observed. Two estates, belonging to the same proprietor, about eight miles from town, were infected at the time the nearest began to feel its influence: but the infectious nature of the disorder, was, by this circumstance, rendered more evident; for the estates I have mentioned, although so far distant from town, had a constant intercourse with it by water.

It was not till the middle of the month of December, that the disorder assumed those symptoms which rendered it so extremely dangerous. Hitherto, the constitutions of the inhabitants, particularly the Blacks, had suffered little. But, the long continuance of the most extraordinary state of weather remembered by the oldest inhabitant, had now increased the inflammatory diathesis, already generally prevailing, to such a degree, as to render the disorder, when it appeared on the more distant estates, extremely dangerous, by the violence,
obscurity,

obscurity, and insidious nature of its symptoms. About the middle of January, the disorder appeared every where, only leaving the constitutions of those who had survived it so extremely enfeebled, as to render them, for a long time, unfit for their customary employments.

How far the peculiar disposition of the air was efficient in producing this fatal change in the epidemic, will be seen by attending to the following account of the weather, from September till the latter end of January.

Nearly half the month of September was showery, with much thunder and lightning; but there was little wind, and chiefly southerly and easterly. The heat was by no means considerable; the range of the thermometer, at noon, being from 87 to 80; and, in the morning, from 82 to 79. The barometer changed from 30 to $29.7\frac{3}{4}$.

Eleven days of October were showery; but the quantity of rain which fell, was not considerable, though attended with heavy squalls of wind from almost every quarter, but chiefly from the north-east. The remainder of the month generally clear, but sultry, and frequently

quently calm. The thermometer ranged from 88 to 82 at noon; and, in the morning, from 83 to 79; the average of the month being $82\frac{11}{16}$. The barometer changed very little; from $29.9\frac{1}{2}$ to 29 8.

Half November was rainy; and, on several days, the showers were excessively heavy, with violent gusts of wind, and, not unfrequently, with thunder and lightning. The other half was as remarkable for sultry calms, with sometimes a clear sky, but more frequently cloudy. The nights were more remarkable for moisture than the days. The winds were very variable; but, upon the whole, northerly and easterly were the most prevalent. The range of the thermometer was from 85 to 81 at noon; and, in the morning, from 81 to 78. The average of the month was $81\frac{1}{2}$. The barometer changed from 29.9 to 29.7.

December, like November, was rainy; but the quantity which fell, the degree of north-easterly and north-westerly winds, and their chilliness, were infinitely greater. During the mornings, evenings, and nights, the coldness of these winds was exceedingly piercing; and the peculiar chilling quality of the air was such,

as to communicate a sensation to the human body, similar to that which is felt on the approach of a paroxysm of a regular intermittent. The pores were continually shut up, by the uncommonly corrugating influence of these prevailing winds; and people, in general, were obliged to have recourse to warm cloathing or exercise, to produce that degree of heat and perspiration necessary for the maintaining of a healthy constitution. The range of the thermometer, at noon, was from 84 to 78.30; and, in the morning, from 81 to 77. The barometer was higher, on several days of this month, than any of the preceding; being three days at 30, and generally at 29.9.

January had seventeen days rainy, on some of which there were heavy squalls, chiefly from N. N. E. and E. N. E. The latter part of the month, weather clear, two or three days excepted, with southerly winds. During the first two weeks of this month, the disposition of the air was nearly the same as that of December; but afterwards it became more temperate. The thermometer was generally low; the range, at noon, being from 81 to 78; and, in the morning, from 78 to 74. The average
of

of the month, was $79\frac{3}{16}$. Towards the end of the month, the barometer was frequently as high as 30; but, in general, it stood at $29.9\frac{1}{2}$.

The disease, as has been already observed, made its first appearance in St George's, about the beginning of November; at which time, although very general, and very distressing to the patients, it was not attended with any symptom indicating danger. The most common way in which it appeared, was the following: It began like an ague fit, with coldness, shivering, and shaking. Soon after, the patient felt a languor, lassitude, disinclination to move, acute pain in the head, attended with a sense of uncommon fullness and lightness in it, flying pains all over the body, and other symptoms of fever. These were accompanied, on the following day, with excessive oppression at the præcordia; a hoarseness and pain in the throat; a sneezing and coryza; a watery discharge from the eyes, with, sometimes, considerable inflammation of the albuginea; and a constant troublesome dry cough. Sometimes, together with all these, the patient complained of uneasiness and sickness at the stomach, and, not unfrequently,

unfrequently, had very copious spontaneous bilious vomitings; which always relieved, especially if a sweating was produced at the same time. Difficult respiration, and a general soreness, were almost constantly complained of. These symptoms afflicted the patient for three or four days, and then disappeared, in consequence of spontaneous sweating, or the effect of the medicines administered to him.

The fever sometimes appeared in a continued form, but most generally in that of a remittent, or intermittent; and, when in the latter, the paroxysm always came on in the evening, and continued all night. And, although the catarrhal and other symptoms continued all day; yet they always, particularly the cough, seemed to increase in violence, when the exacerbation of the fever took place.

Together with all, or most of the symptoms enumerated, the patient complained of a pain, sometimes in the right side, in the region of the liver, stretching to the opposite side, or upwards to the shoulder and clavicle; sometimes at the pit of the stomach, extending to the spine; sometimes in the left side, exhibiting every appearance of pleurisy; and sometimes

times frequently shifting from the right to the left, and from the left to the right side. When these pains occurred, the respiration, and straitening of the thorax became so excessive, as to threaten instant suffocation. It is not a little extraordinary, that although these pains indicated topical inflammation, to a violent degree, bleeding was seldom useful; and, in two or three instances, was evidently prejudicial. This circumstance constituted the principal distinction between the nature of the disorder at this early period of it, and when it recurred some time afterwards; for we shall find, that then, plentiful and frequent bleedings were the only, or the principal remedy to be depended on.

This was the manner in which the disorder shewed itself; but it varied frequently: for, sometimes the patient complained of continued fever, with cough only; at other times, the only symptoms complained of, were a pain at the pit of the stomach, and dry troublesome cough, which always increased the violence of the pain.

Some fevers occurred at this period, which, though without any catarrhal symptom, except

cept the oppression at the præcordia, and watery discharge from the eyes, were evidently rendered worse, by the peculiar disposition of the air at the time. Some, afflicted with these, died.

There were also some instances of putrid fever shewing itself, under the semblance of this epidemic. Some cases, in particular, partook so much of the putrid diathesis, as to render the situation of the patients extremely dangerous. In such, I have been induced to administer bark, combined with some gentle deobstruent and diaphoretic, even during the existence of the fever; the symptoms running so high, as to make a delay of this practice unjustifiable. In these, the catarrhal symptoms were very evidently marked, and occasioned the loss of two patients, by their preventing my attending to those of putrescence.

One case occurred, conjoined with Tetanus, which ended fatally in three days. Here the catarrhal symptoms, such as cough, coryza, and inflammation of the throat, increased the violence of the spasmodic affection to such a degree, as to render the struggle the patient underwent, truly dreadful.

At

At the termination of the disease, there were sometimes eruptions about the lips and nose, similar to those which frequently take place at the close of common fevers.

In a few cases, the paroxysm of fever rose so high, as to occasion delirium; but the duration of this symptom was very short, and never very alarming.

Except in a few instances, the pulse was not much affected, rising generally to 94 or 100; nor was it hard, though frequently full. The state of the pulse, is another characteristic distinction of the disorder now, from what it was some time after.

Upon the whole, the suddenness of its attack, the rapid progress of the symptoms, the seeming danger into which they threw the patient, its extensive prevalence, and the speedy recovery, sometimes from natural efforts, but more generally from the action of the medicines administered, were very remarkable, and constituted the principal diagnostics of the disease. I have known patients suddenly seized at noon, with all the symptoms of the disease, even the most violent, such as, acute pains in the right side, &c. and, on the following

VOL. V. DEC. II. Y morning,

morning, be as well as ever; and this, merely from one bleeding, and a plentiful perspiration during the night.

But, after the weather became so uncommonly tempestuous and cold, in the month of December, the inflammatory disposition, which had already been introduced into the constitution, increased to a most alarming degree, and rendered the disorder, hitherto only a singular catarrhal affection, extremely dangerous and fatal. It is extraordinary, that when it shewed itself in this new and fatal form, it was confined to particular districts and particular estates; those adjoining being perfectly exempted from it. And, except in two instances, it does not appear that those on which it formerly raged, were, in the smallest degree, afflicted with it now. Another circumstance, equally curious, is, that in those estates where the influence of the prevailing chilling winds, at this time, was most felt, from their greater exposure to them, the disorder was most fatal.

The symptoms it assumed, were extremely various. On some estates, it became either the genuine or anomalous Hepatitis; on others, Peripneumony or Pleurisy. When it became

became the anomalous hepatitis, the same symptoms appeared as those which pointed out that insidious disorder in the year 1786; and it ran with the same rapidity to a fatal termination, as when that fatal epidemic raged. It was not till two patients died, that the disorder, in this form, was detected; a circumstance by no means surprising, when it is considered, that the sick were at the same time afflicted with the general symptoms of the prevailing catarrh. Dissection discovered it; and, as formerly, copious bleedings and mercury cured it. And, it is very remarkable, that when the mercury continued inactive, the disorder always proved fatal, notwithstanding the large bleedings; nor is the assistance which the latter afforded the former, in giving it a more certain tendency to affect the habit, less remarkable.

The peripneumonies and pleurifies were of a nature very similar to the fatal epidemic of that name, described by the late Dr Cleghorn. In the cases of these disorders which proved fatal, the symptoms, at the beginning, were not very alarming; but, on the third or fifth day, the oppression at the præcordia, the com-

pressed state of the lungs, (which sometimes occasioned a considerable protrusion of the eye-balls, by the patient's efforts to breathe), the excessive, and frequently intermittent palpitation, the alternate flushing and paleness of the face, the sensation of approaching suffocation, as it were, and the violent exertions made in breathing, exhibited a scene, at once dreadful, distressing, and uncommon. These symptoms were generally accompanied with a tremulous or intermittent pulse; sometimes, in the same patient, so small, as to be felt with difficulty; and, at other times, remarkably hard, quick, and full. The fever which attended, was remitting, or one with violent exacerbations in the evening, which continued all night, and, towards morning, were succeeded by indistinct intermissions. The heat of the skin was of a most disagreeable, pungent, penetrating nature. On first touching it, we were not sensible of any uncommon heat; but, on pressing, and continuing the pressure for a few seconds, a heat, such as I have described, was felt, which left a very disagreeable sensation for a considerable length of time, after withdrawing the hand. In several cases, the
state

state of the patient was rendered infinitely more distressing, by a constant hard cough, by the want of sleep, and by the sitting posture he was constantly obliged to keep himself in. These symptoms continued to oppress the patient, till they were relieved by the large bleedings, or till they terminated his existence, in two, three, or five days from their commencement.

The blood drawn from those who laboured under hepatic inflammation did not always throw up an inflammatory crust; but the crassamentum was always of a firm texture; and the quantity of serum was generally very small, in proportion to the quantity of blood drawn. But when the thoracic viscera were the seat of the inflammation, the blood drawn, threw up an inflammatory crust of great thickness; and I am informed by the medical Gentlemen whose practice lies on the windward side of the Island, where the disorder was more violent, if possible, than on our side, that it sometimes exhibited the appearance of a thick mucilage of gum tragacanth, or very strong starch, containing a very small quantity of red globules or serum.

Several patients expectorated freely; but this evacuation was never observed useful, either in preventing the dangerous symptoms, or mitigating them after they appeared. The expectorated matter generally consisted of phlegm, mucus, or a mixture of ill formed purulent matter and mucus, sometimes streaked with blood. There were also two or three instances of hæmorrhage from the nose; but the patients obtained no relief from it.

Perspiration, during the first period of the disease, when it was simply catarrhal, almost always removed the fever, and the most troublesome symptoms; but the cough was not mitigated by it, continuing several days, and even weeks, after. But, in the last period, although copious sweating frequently came on spontaneously, and was frequently excited by antimonial medicines, it never relieved in the smallest degree.

None suffered by the disorder when it appeared in the form of idiopathic hepatitis; but several died of the anomalous. On opening the bodies of those who died, the liver was found of a monstrous size, filling completely both hypochondria, and compressing the lungs
and

and heart into a surprisngly small space. Its surface had a clouded appearance ; and, on several parts of it, there was a whitish kind of matter, in some parts formed into thin small cakes, in others loose and curdy-like. Every other part of the body was in a healthy state.

In the bodies of those who died of the disorder in the form of peripneumony and pleurisy, the thorax was always found the only seat of the disease. The lungs, pleura, heart, diaphragm, and even the pericardium, in one or two instances, were violently inflamed ; and on the surface of the lungs, where they did not adhere to the pleura, and of the heart, there was, not uncommonly, a white or greyish encrustation. In general, the left lobe was more diseased than the right ; but, in some instances, both lobes exhibited a livery appearance, all traces of their natural structure being obliterated, and their substance become solid, dark brown, and so heavy as to sink in water. On separating the lobes, where they adhered to the pleura, their surface was found besmeared with a very soft unctuous substance. This substance was likewise observed on the

parts of the liver, in the anomalous hepatitis, which adhered to the diaphragm and costæ.

These were the most remarkable morbid appearances, on dissection, in the bodies of those who died of those disorders. There was one patient labouring under catarrhal affection, during the first period of the disease, who died suddenly. On opening the body, a polypus was found in the right ventricle of the heart, which almost completely filled it up, and extended a very considerable way into the pulmonary artery.

When the disorder first appeared here, the excessive oppression at the præcordia, and pain and tightness in the head, induced me to draw blood very freely. But, soon finding this evacuation either unnecessary or hurtful, I desisted from the use of it, except in a few cases, where topical inflammation was distinctly marked. I then had recourse to a very simple method of cure, which, in every instance except those mentioned, proved surprisingly efficacious. I considered the disease as arising from suppressed perspiration; and consequently, judged, that by exciting that discharge, I should be able to cure it. The event justified
my

my opinion. My usual mode was, to order two or three grains of tartar emetic to be dissolved in a quart of hot barley-water; the whole of which was to be given to the patient in the course of twelve hours, in such quantities at a time as might not disturb the stomach, or, at most, only excite a gentle nausea. In the intervals, after a sweat broke out, he was to be well covered with blankets, and large draughts of warm barley water were to be given to him, from time to time, with a view to support the sweat. At the same time that this medicine excited a diaphoresis, it procured a stool or two, and sometimes occasioned a vomiting, especially when the stomach was loaded with acrid bile; both which, forwarded the cure very much. The sweat was kept up, by these means, for twelve hours; at the expiration of which, the oppression at the præcordia, and other distressing symptoms, were totally removed, nothing remaining but some degree of debility and cough. To mitigate the last symptom, I generally made use of sperma ceti, dissolved in lac ammoniacum, or in powder, with an equal quantity of candy sugar. The estate
Negroes,

Negroes, for this purpose, took syrup, made of the juice of the crescentia or calabash, which answered effectually. When the complaint was, in this manner, removed, the patient seldom relapsed, and very soon recovered his former health and strength.

This was my general mode of cure. But sometimes, instead of the emetic tartar, I made use of Dover's powder, in proportions suitable to the ages of the patients, or the Kermes mineral. The last medicine I found extremely useful, in cases where the lungs were surcharged with phlegm, or where the symptoms indicated peripneumonic affection. I generally gave three grains, mixed up in a table-spoonful of the calabash syrup, three times in the day. Its usual effect, was to produce a plentiful diaphoresis, and a free expectoration. It was sometimes, however, troublesome, by bringing on a diarrhoea, which now and then terminated in dysentery, and almost never relieved the catarrhal symptoms. In treating patients of a very delicate habit of body, I combined the diaphoretic in nearly the following manner :

R Sal.

R Sal. Nitri pulv. gr. x.

Kerm. Mineral. gr. $\frac{1}{4}$.

Pulv. Nuc. Moschat. gr. iv.

Ol. Cinamom. gtt. i. M. f. p. fumend.
ter in die.

This medicine produced all the above effects, except vomiting, in the degree I wished.

On several French estates, the disorder was treated by the hospital nurses, or the owners themselves. The mode they followed, was much more troublesome than mine, and not always equally effectual. They made up a lohoch, of equal parts of the ol. ricini, juice of the fruit of calabash, and molasses, to which they added a small quantity of Kermes mineral. Of this, a pretty large dose was administered, morning and evening; and, through the day, the patients were made to dilute plentifully with a decoction of barley or rice, and a species of grass, called by them *Herbe grasse*, I believe the *Panicum coloratum* of Linnæus.

I have already observed, that it was seldom necessary to bleed. A striking instance of the inutility of this evacuation, was the following:
A robust negro sailor, in the month of November,

vember, had, together with the general symptoms of the prevailing epidemic, a violent pain in the right side, which rendered respiration extremely painful and difficult. Induced, by this, to consider his complaint as an inflammation of the liver, I directed a large quantity of blood to be taken away. Finding no relief, in the evening the bleeding was repeated; but, after passing a very uncomfortable night, the pain in the morning was as severe as before. I did not judge it prudent to take away any more, till the sweating process had been tried. With this view, about two scruples of Dover's powder were given him, and repeated every third hour, till a copious diaphoresis was produced. The instant he began to perspire, the pain abated; and, at the end of twelve hours, all his alarming symptoms totally disappeared.

Except three cases, where the catarrhal symptoms were conjoined with those of putrescence, that I have mentioned, where polypus in the right ventricle of the heart, and in the pulmonary artery, was the cause of death, and the case of tetanus with catarrh, I did not lose a single patient during the first period of the disease,

disease, although the number of sick was surprisingly great. I dare say, I am within the actual number taken ill of this epidemic, in my practice, when I fix it at fifteen hundred, exclusive of whites; and, of this number, only six died, which is only one in a hundred and fifty.

In the month of December, when the uncommon disposition of the air altered the nature of the epidemic in many respects, in my circle of practice, it appeared on two estates only; but, in the practice of my partner, Doctor William Munro, it became as universal as it was before in mine. And, in general, the symptoms were so obscure, as to render it difficult to determine on any certain mode of treatment. At first, considering it as not essentially differing from what it had hitherto been, we treated it with diaphoretics, antiphlogistics, and blisters: but we soon found ourselves totally deceived; for many died in a very short space of time. On opening the bodies of these, we found those appearances I have already described. Upon this, we had recourse to bleeding, as the only remedy to be depended on. We began by taking away
eighteen

eighteen or twenty ounces; or till the patient fainted; or till he felt some abatement of the pain and oppression. If, after this, the alarming symptoms continued, we repeated the evacuation, and continued to do so till they were removed. These copious and frequent bleedings almost always proved successful, when the disorder was early discovered, and attended to. In the pleuretic and peripneumonic complaints, we trusted to no other remedy; and indeed, the little time given us, did not afford room for the use of any material medicine. The usual medicine we gave our patients, when the violence of the disorder permitted the use of any, was composed of nitre and camphor, with a small proportion of Kermes mineral, or James's powder. The last was frequently given alone; and, although it twice excited a copious perspiration, the patients were never relieved by it. To some, mercury was given; and, when it produced a salivation, the success was astonishing. This medicine, however, was not used till towards the decline of the disorder; but, from the evident favourable change it produced, it is more than probable, that, had

we

we had recourse to it earlier, the mortality would have been less.

Those cases, where the disorder assumed the symptoms of idiopathic inflammation of the liver, were cured in the usual way. We bled pretty freely, and excited a salivation, which always removed the disorder. Several of those afflicted with the anomalous hepatitis died before we could distinguish the nature of their complaint; but, after detecting it, we had recourse to very copious and frequent bleedings, and excited a salivation as speedily as possible. When this was effected, we were certain of the patient's recovery; but it sometimes happened, that the mercury, not being sufficiently guarded with opium, ran off by stool, or remained totally inactive:—In either case, the patient suffered. But, in the last, the effect of bleeding, as has been already observed, in assisting the action of the mercury, was very remarkable. Several cases occurred on one estate in particular, on which the anomalous hepatitis was more prevalent than on any other in my practice, where large quantities of mercury, sometimes one hundred grains, had been given, without producing the desired effect,

fect, although three or four pounds of blood had been drawn. On repeating the bleeding once more, the mouth became suddenly affected; and, next morning, the patient was thrown into a profuse salivation by the mercury already taken. My usual method of administering mercury in this disorder, was the following: After bleeding the patient once or twice very freely, I gave him a pill, composed of five grains of calomel, and one grain of opium; and repeated it, according to the urgency of the case, two, three, or four times in the day, till the mouth became affected, repeating at the same time, occasionally, the bleedings. In general, six of these pills; that is, thirty grains of calomel, produced the wished-for effect. Blisters were also used, applied to the part where the pain was chiefly felt; and, in the low cases, where the mercury had no effect, they were applied to the thighs, pit of the stomach, and ankles, together with sinapisms to the feet: but I cannot boast of their efficacy in any stage of the disorder. And, upon the whole, no dependence was put on any remedies but the large and frequent bleedings, and mercury.

I remem-

I remember one case, and only one, where mercury alone had the desired effect, without bleeding. A negro, belonging to Hugh M'Sween, Esq; of Grand-Mal estate, confined to the yaw-house, which is generally at a considerable distance from the dwelling-house and negro-huts, was seized with the epidemic in the form of anomalous hepatitis. As the yawed negroes have very little intercourse with the healthy, nobody knew of his situation for several days. At length, by accident, passing that way, another yawed negro called to me, and informed me of the situation of Daniel, the sick man. On seeing him, I found him so excessively reduced by the disorder, that I did not think it prudent to draw any blood from him. I only directed him to be put on the diaphoretic course already described. On the following day, finding his complaints much the same, although he had sweated very freely, and observing that the most urgent symptoms were, a pain at the pit of the stomach, stretching to the spine, and compressing the lungs in such a manner as to render respiration excessively difficult, and violent headach; I immediately ordered the calomel pill to be given to him;

and repeated three times in the day. This course was persevered in for five days; in which time, he took about eighty grains of mercury. As there was no appearance of salivation, and as his complaints continued as violent as ever, with excessive debility, small, tremulous, very frequent pulse, and delirium at times, I directed the nurse to be very cautious in administering more mercury. Next day, to his former complaints, were added diarrhoea and increased debility. The mercury was discontinued altogether, and pills of opium, with wine, and light nourishing food, were from time to time given to him. I had every reason to consider my patient as fast approaching to his last. But, two days after, when I again saw him, to my utter astonishment, I found that the diarrhoea had ceased; that his gums had become sore the day before; and that, now, a gentle salivation had taken place. The salivation continuing, he daily became better; and, in about a fortnight, he was able to walk about a little, having no other complaint but cough.

III.

History of a Case, in which remarkable Adhesions of the Intestinal Canal terminated fatally. By Dr Andrew Willison, Physician in Dundee.

BARBARA SHARPE, aged seventeen years, of a florid healthy complexion, and robust constitution, was seized suddenly, on Sunday 23d May last, with acute pains all over her abdomen, but more particularly in the left hypochondrium, and small of her back. These continued to increase in severity till Monday 31st, when I was desired to visit her.

She had always enjoyed exceeding good health, never having had any complaint, except that, about two months previous to this attack, she had got a fright, that had occasioned a suppression of the menstrual discharge, which had not again returned.

Z 2

I found

I found her in very great agony, from the sharp pains in her bowels, which she could compare to nothing else but the piercing of swords. She could not ly long in one posture ; but was continually tossing and rolling about in the bed. Her belly was somewhat swelled. It felt hard and tense, though no fluctuation was perceptible to the touch. The swelling extended upwards to the cartilago ensiformis. A hard tumour was distinctly felt in the left hypochondrium, which she could not suffer to be pressed. She complained constantly of nausea, and inclination to vomit ; so that nothing she swallowed had been retained on her stomach for any length of time. She had been obstinately costive for some days, and had taken a few aloetic pills, but with no effect. Her urine was scanty, of a deep red colour, with a lateritious sediment. Her thirst was great, and she had entirely lost her appetite. Pulse small, hard, and rather quick.

I first took twelve ounces of blood from her arm, which appeared to indicate an inflammatory diathesis. I then directed the following nitrous purging powder to be taken, and to be repeated four hours after, if necessary.

R. Pulv.

R Pulv. Jalap. drach. fs.

— Crem. Tart.

— Sal. Nitri aa. gr. xv. M. p. d.

Water-gruel, acidulated according to her taste with lemon juice, was ordered for common drink; and a large blister was applied on the left side of her belly.

June 1st. She had one large stool after the second dose of the powder, and complained of much nausea afterwards. The blister had risen well, but had produced no mitigation of the pains, which continued as intense as ever. She had frequent vomiting, especially on taking down ever so little food. Her belly was always bound. Two table-spoonfuls of a saline julep, with twenty drops of laudanum in each dose of the julep, was ordered to be taken every two hours, and an ounce of castor-oil at bed-time.

2d. She felt no alleviation of symptoms; and the constant retching continued. What she vomited was exceedingly bitter, and had a yellow appearance. The julep had caused no abatement of the pains in her bowels; and it was repeatedly thrown up, along with much bilious matter. The castor-oil was likewise rejected. Fomentations and the warm bath,

in various forms, were then tried; but were used without affording the smallest relief. The swelling of the abdomen rather increases.

Repr. Julap. cum additione Spt. Nitri dulc. drach. ii. A laxative injection to be given in the evening.

3d. She slept very ill. Two purging injections were exhibited last night, without effect. She complains of gripes, nausea, and intolerable bitter taste in her mouth. Omitr. Julap. anod. Cap. Decoct. Tamarind. cum triplice Senna unc. iii. omn. hor. ad 4^m. vicem, donec alvus dejecerit.

4th. No effect was obtained, but vomiting, from every dose of the purgative. Pulse, nausea, and costiveness, as formerly. She complains much of the pains in her bowels. Repr. enema purgans vesp. et capr. cras mane Bolum ex P. Jalapp. dr. i. Calomel. gr. v. cum Conf. Rosar.

6th. The injection had no effect, though tried in different forms: some obstruction in the gut prevented its being thrown up, as it always returned immediately. Some small effect from the bolus. Abdomen still hard and tense—

tense—Fricetur probe cum ol. camphorat. mane et vesp.

8th. Symptoms continue with unabated violence. Vomiting of bilious matter incessant.

R Laud. liquid.

Æth. Vitriol.

Spt. Nitr. Dulc. aa. drach. iiii. M. Capt. cochleare parvulum omn. bihor. ex aq. font. unc. ii.

10th. She had taken an emetic of powder of ipecacuanha yesterday, and had drunk largely of an infusion of chamomile. The nausea and retchings, however, continue to day, as formerly. Obstinate costiveness remains. No sensible effect from the antispasmodic drops. Omittr. Guttæ. Some obscure fluctuation is perceived in the abdomen for the first time. Habt. Bol. Mercur. ut antea. Contr. ol. Camph.

11th. Some slight operation from the Bolus, which was retained. Urine grows more turbid and scanty. Thirst increases.

R Pulv. Scillæ fccat. gr. ii.

—— Diaromat. gr. iv.

—— Sal Nitri gr. x. M. p. d. f. vi. huj. cup. i. omn. 6^{ta}. hor. ex Julap.

Z 4

salin.

salin. unc. ii. Habt. haust. anod.
h. f. ex aq. Cinnam. ten. unc. i.
cum Laud. liquid. gtt. L.

13th. Retained several of her powders, which operated twice yesterday. She threw up her anodyne draught both the nights. Omr. haust. anod. Habt. haust. salin. inter effervescentiam. Contr. ol. camphorat.

15th. No obvious effect, in stopping the vomiting, was produced from the effervescing draughts. No remission of symptoms has taken place. Omr. haust. salin. Repr. Pulv. diuret. et Julap. salin.

17th. The powders were all taken; but without their former good effect. Repeated retchings followed every dose of them. She has considerable bilious vomiting to-day. Repr. Bolus Mercur. mane sumendus. Contr. ol. camphorat.

19th. Retained her bolus; which, however, has not operated. She complains of gripes. R Sal. Glaub. unc. iss. Crystall. Tartar. unc. ss. ft. solutio in aq. bullient. unc. xii. Capt. unc. iv. om. hor. donec alvus responderit.

20th. She took three doses of the solution yesterday, but rejected them all. The pains in her bowels increase in severity. No opera-

tion

tion from the purgative. Repr. Bolus Mercurialis.

21st. She threw up her bolus immediately after it was swallowed. She obstinately refuses to take any more medicines. All the symptoms increase in virulence. Her flesh and strength are much wasted. Pulse regular, but sinks daily.

22^d. This day, the matter she vomited, put on a different appearance: From a yellow colour, it assumed a dark brownish hue, as if mixed with grumous blood, and had a fetid smell. She threw up near six pounds of this coloured matter in the course of twenty-four hours. This appearance of the rejected fluid continued till June 30th, when she calmly expired. Some hours previous to her dissolution, a purging of a black, pitch-like, fetid matter, supervened, which occasioned the swelling of her abdomen to subside very considerably; and the tumour in the left hypochondrium entirely vanished.

Upon examination of the body after death, (along with my brother Doctor Willison, who had seen her several times during her illness), we found that a very uncommon degree

gree of emaciation had been produced. The cavity of the abdomen contained about six pounds of a dark-coloured ferous fluid. The omentum had been completely wasted; no vestige of it could be perceived. We were very much surpris'd to find, that a *complete adhesion* of all the intestines, small and great, had taken place. They had a livid appearance; and they adhered so completely, that it would have been impossible to have separated them by the nicest dissection. Their convolutions even could scarcely be traced; and they seem'd almost as if included in a round bag. The liver was not enlarged nor indurated; but a considerable number of red and purplish spots were detect'd upon its surface. The texture of the parenchyma itself was sound; and there were no marks of suppuration having occurred in any part of it. The stomach was very small and contracted; but the vasa brevia had a natural appearance. The spleen, the gall-bladder, and its vessels, were of a natural size, and in a healthy state.

IV,

*Account of a singular Fracture of the Cranium;
and of the Hæmorrhage, from amputation of
the Penis, stopt by slight compression for a
few minutes. By Dr Thomas Irving, Phy-
sician at Lisburne.*

A SOLDIER received a wound in the battle of Prestonpans in Scotland, which divided about two inches of one of the parietal bones. For this he was put into the Edinburgh Infirmary, and was discharged from thence seemingly cured, and sent back, and joined his regiment; which, twelve months after, was sent on an expedition to the coast of France. He was sent on board the hospital-ship in the Bay of Biscay, labouring under all the symptoms of oppressed brain. The Surgeon-General removed the scalp where the wound had been, and discovered the division. He intended

intended to have trepanned him next morning, had he not made his exit that night. The skull was examined before interment; and the divided part, instead of growing together, had shot inwards, in form of the teeth of a comb; and the brain appeared in a very diseased state.

A CORPORAL of Dragoons, an able-bodied strong man, supposed to be near forty years of age, turned Methodist; in which he was joined by a serjeant's daughter, aged about eighteen years. Her father, who was advanced in life, did not approve of her devoting so much time to religious duties; and therefore dismissed her. The corporal, on brotherly-love, took her into his family; and she slept in the bed with him and his wife, who at last grew jealous, and charged him with criminal communication with the girl, which made him determine on castrating himself. He afterwards told me, he had learned that there was no danger but from the hæmorrhage; which caused him to watch my motions for some preceding days, after breakfast. At last, he found me, on the morning of his operation, going

going into one of the rooms, to visit a man sick in the barracks. I had scarcely got into it, when I was called on to the corporal, bleeding to death. I made all the dispatch possible to his room ; where I found him standing over a fire on the hearth, bleeding profusely. I ordered him to press with his hand on the wound, until I could get the ligatures ready, which was soon done. But, on removing his hand, the hæmorrhage was stopped in all parts of the wound, except the dorsum penis, and never returned. I tied a thread round the bleeding artery, until he had a call to urine, which did not happen for some hours ; and, when the ligature was removed, there was no farther hæmorrhage. He amputated all the scrotum and its contents, and left only about an inch of the penis. All the wound healed very quickly, but the spongy root of the penis. It was some considerable time before it entirely wasted away, leaving an orifice in the urethra, level with the skin of the pubes ; and he was soon afterwards able to return to his duty again. The operation was performed with a razor, in the room where his wife and some other women were sitting. He threw the amputated

ed

ed parts into his wife's lap; telling her, he hoped that would convince her of his future intentions. Being often jeered by his fellow-foldiers, he embraced an opportunity of being draughted into a regiment of Horse. He went abroad with them, where he behaved remarkably well; and the young girl accompanied him all the time he was on service.

Y.

V.

*History of an anomalous Case, apparently of the
Rheumatic kind, terminating fatally. By
———. Communicated to
Dr Duncan.*

ON the evening of the 22d instant, I visited Mr E. of P——, in this county. He was about thirty-six years old, of an athletic make, sanguine temperament, and full habit, and had been in general healthy; recollecting having suffered only one fit of severe illness, in which he said he was deprived of the use of his limbs. I conclude, therefore, that his then disease was the acute rheumatism, which the country people here usually describe in that manner. I found that he had, some time before, been exposed to cold, from standing much on wet ground. His apothecary, (a very ingenious and skilful man), was called to him first on the 17th instant. At that time,
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the patient laboured under a severe catarrh, of some days standing ; with cough ; symptoms of much pneumonic inflammation ; and, among other complaints, a wringing or gulping on deglutition, approaching to a hiccough. These symptoms, after one or two liberal bleedings, and the other usual antiphlogistic and emollient remedies, ceased almost entirely. But, on the 19th instant, at night, the patient was seized with intense pain in the whole of the left leg ; and, soon afterwards, with the same sort of pain, though in a less degree, across both thighs, and in the right leg. The warmth of the bed appeared to aggravate these pains so much, that he found himself under the necessity of sitting up, till near the time of my visit ; when he was again laid in the bed, but with very light covering. He complained much of the pain of his thighs ; to alleviate which, he had, some time on that day, without the knowledge of his apothecary, rubbed them with bruised snails and salt, this being a remedy of which he had a high opinion. I found, also, that he had not passed any urine for almost thirty hours : He had not suffered much painful or pressing necessity to make it ;
but

but had frequently tried, to no purpose. The heat of the skin was little above the natural degree; the pulse ninety; rather hard, and sufficiently strong; the tongue moist. The bowels had been in a lax state. Some tension and fullness being felt above the pubes, it was thought expedient to introduce the catheter, which was easily done; but without the effect of evacuating any urine. I directed a moderate bleeding, which the patient bore extremely well; the pulse rising on the evacuation, and the blood throwing up a very tough inflammatory crust. I ordered also nitre, in as large doses as the stomach (which was not at all irritable) would easily bear, and the use of bland and diluting drinks; to which a portion of Spiritus *Ætheris Nitrosi* was now and then to be added.

Very early the next morning, the patient sent for his apothecary, in order to get some relief of his *Ischuria*, which was now become extremely painful and alarming to him. He made no longer any complaint of his thighs. His pulse was advanced to ninety-six. The catheter was again used, without effect. He again lost blood, with a free stream; which,

however, was buffy only in a slight degree, and in spots.

About 10 A. M. on the 23d instant, I saw my patient again, and in far worse circumstances than on the preceding evening. He had made no water; the lower part of his belly was full, very tense and hard, and extremely painful, on being gently pressed. He was very restless. His strength was very much diminished; and he despaired of recovery. His upper extremities were rather colder than natural. His pulse was one hundred and eight, without any hardness, and was much sunk in point of force. He had no pain in the thighs, or indeed any where, except in the bladder and urethra. I now ordered the warm bath to be used every six hours; and, in the intervals, warm fomentations to be constantly applied to the region of the pubes; a blister to the perinæum, and also one to each of the thighs, near the seat of the former pain; a bolus, consisting of six grains of calomel, and one grain and a half of opium, to be taken every six hours; and, once in eight hours, a glyster of half a pint of warm sweet oil to be injected. After the first bathing, the patient
passed

passed a small quantity of urine ; and, after the second, about half a pint was voided. At the same time, a stool was passed, with considerable diminution of the size and tension of the abdomen. These circumstances, to appearance favourable, very much raised the hopes of the patient's friends and attendants. But his sinking pulse, and altered countenance, too plainly pointed out the fallacious nature of those hopes. He was, however, again placed in the warm bath, and again voided a considerable quantity of urine ; but, his strength decreasing fast, he became insensible in a few hours, and expired on the 24th instant, at two o'clock.

Quer. Was this a rheumatic affection, attacking different muscular and membranous parts in succession, and at length fixing on the urinary passages ?

Did the evacuations used, dispose the affection to quit the lower extremities, and attack the bladder ?

Did the use of the catheter, by producing irritation, exasperate a complaint, which it was ill fitted to relieve ?

Was the use of nitre improper, for the same reason?

Was the change in the appearance of the extravasated blood, and in the state of the patient's strength, and of his pulse, the effect of the disorder's attacking a very irritable part, and thereby depressing the vis vitæ?

Without pretending to answer these queries of our ingenious and learned correspondent, we shall, for the present at least, content ourselves with subjecting them to the consideration of the intelligent reader.

VI.

History of a Case of Angina Pectoris, cured by the Solutio Arsenici. By Mr Edward Alexander Surgeon, Halifax, Yorkshire. Communicated to Dr Duncan.

December 3d, 1789.

MR LISTER, aged fifty-seven, of a corpulent, but irritable habit of body, with a short neck, for these last four months, has been used to be attacked, after walking, with a severe pain beneath the inferior part of the sternum, which, in the beginning, generally ceased on standing still. The pain, in a short time, became very excruciating, and frequently increased to so great a degree, as to threaten immediate destruction, always producing a sensation of great heat. He continued to be affected in this manner for two months, his appetite and spirits being but very indifferent. After this time, his complaint was much aggravated.

yated. The pain used to seize him two or three times in a day, even when he was sitting still, or using no exertion; and invariably came on from walking, or exerting himself in the least; but did not now cease upon standing still. It generally remained about ten minutes in his breast; and, from thence, used to pass into his arms and back, and to continue for the same time there. Besides, it now constantly returned in the night, always after the first sleep, to such a degree, that he was obliged to rise out of bed, and support himself, by leaning against the wall of his room. At this time, it commonly remained with him about an hour. Before the pain came on, he was sometimes affected with a sensation of phlegm in his throat, as if he should cough; and has now and then got up a small quantity of phlegm, which always gave him a great deal of ease: And he often thought, unless he had been able to get up the phlegm, he should have died. It had the appearance of nothing more than common mucus, being of a white colour, and having no smell. He seldom expectorated in the intervals, though he was afflicted with a cough and difficulty of breathing, which had
stuck

stuck to him for several years. His pulse was always quick and weak, even between the paroxysms; generally about one hundred, sometimes more. I regreted very much at not having an opportunity of examining the pulse during a fit. His stools were regular. Any agitation of mind was apt to bring on an attack; and he observed, it seized him more frequently on an empty stomach than a full one. Sometimes, he has felt the pain a little higher up, and, frequently, inclined to the left side. He found ease from drinking strong mint water, and straitening the vertebræ of the thorax, and bending them backwards and forwards. He could always bear the motion of a horse or carriage very well.

Being alarmed with his complaint, which had continued for four months, and had now increased to a violent degree, he applied to me. Looking upon his disorder to be Angina Pectoris, which I thought fairly marked, I was desirous of trying a solution of arsenic, made after the receipt of Dr Fowler, as I believed most medicines had been used with little or no success for the removal of so dreadful a malady. At the same time, I ordered him to

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drink

drink wine, or brandy and water, and to eat a little flesh meat; but to refrain from butter, or any thing which might be apt to disagree with his stomach. The solution was given him in the following manner :

R Aq. font. unc. i.

Spt. Nuc. Mosch. drach. ii.

Solut. Arsenic. gtt. vi.

Syr. Caryoph. drach. fs. M. f. haust. sumend. ter die.

He began to take these draughts in a forenoon ; and, what was remarkable, his pain never attacked him on that day, but returned a little in the night. The day after, I increased the dose to seven drops. The same happy effect was produced, but still greater ; for it now left him in the night, and his pulse was become much slower, though still very quick. These draughts were continued about a fortnight, the dose being daily increased, by one drop to thirteen, adding a little more Spt. Nuc. Mosch. He had no return after the first night. His appetite and spirits became now much better ; he found his strength daily improve ; and he thought himself better than he had been for twenty years, being now to-
tally

tally free from his complaint in any degree whatever.

Three or four days after leaving off his draughts, he was obliged to take a short journey; and, being very much fatigued with it, his pain returned in the night, but in a very slight degree. He took the solution for two or three days, and afterwards found himself better than ever.

About a fortnight after this time, fearing lest he should have a return of his complaint, I proposed to give him the bark; and ordered him the tincture of bark, gentian root, and orange peel, as recommended by Dr Whytte. But this disagreed with him, and brought on his pain immediately. I then thought it was adviseable for him to take no more; but ordered him to have recourse to his draughts. He took them about three or four days; and they again removed his disorder. It is now upwards of five months since he left them off, and he has not experienced the least return of his pain since; except in a very slight degree, for a day or two, which was at that time removed by the tincture of bark above mentioned; the smallest quantity of the solution of arsenic

senic having, at that time, a most violent effect upon him, although, when he took it at first, during the violence of his complaint, it had no sensible effect. This may, perhaps, at first seem extraordinary; but, when we consider the different state of the body at each time, we cannot be surprised at the different effect of the same medicine. In the first case, the irritability of the muscular fibre was much diminished; in which case, a violent stimulus, such as arsenic must be, will have a less effect. In the latter, the irritability was, comparatively, much increased; when arsenic must, of course, operate more powerfully.

He now enjoys a better state of health than he has done for twenty years before; even his cough and difficulty of breathing, to which he had been accustomed for several years, being removed.

I regretted exceedingly I had not an opportunity of examining his pulse immediately after he took the draught; but do not doubt that it made it slower, as it became much better from the use of the draughts. I wish it were in my power to give an account of his pulse

pulse at present; but am prevented, by his living at a considerable distance from me.

I have likewise given this solution, with success, in a case of Epilepsy, of four or five months standing, and in Convulsive Fits produced by worms. I am very sorry I did not commit the cases to paper, as I would have sent you them.

May not the solution of arsenic be of use in Asthma, from its removing the asthmatical symptoms in the above patient, to which he had been accustomed for many years?

I must not forget to inform you, that I have had another case of Angina Pectoris, about a month ago, fairly marked, which has also been cured by the Solutio Arsenici. The patient has now been well for more than a week or ten days; and, I have little doubt, will remain so.

VII.

Account of the external use of Camphor, in Cases of Bronchocele, and Glandular Indurations. By Mr Peter Copland Surgeon, Swayfield, Lincolnshire.

October 30th, 1785.

I WAS desired to look at a swelling in the neck of John H——n's child, of Little Bytham, at whose birth I attended six days before. Upon examination, I found a tumour, of a doughy slippery feel, and without giving pain, occupying the right side of the fore-part of the neck. The child was, in every respect, in perfect health. Having, some time prior, seen Dr Underwood's treatise on the diseases of children, I determined to make use of the application recommended by him for the incipient Bronchocele; and therefore, had oil, saturated with camphor, rubbed diligently upon the part, three times a day. In
a short

a short time, it was evidently lessening; and, in a few weeks, it wholly disappeared, nor has any such appearance taken place since.

The 3d of December following, I was asked to look at a swelling in the neck of the mother of this child; when I found a tumour situated as the above, having the same feel, and without giving pain, but much larger. It, however, was not of long standing; and little attention had been paid to it, till the discovery and event of the swelling in the child. By a diligent use of the same application for several weeks, with the internal use of burnt sponge, in scruple doses, at first twice, and lastly thrice a day, the swelling gradually lessened, till it was just to be discerned. At that time, she declined using her medicines and application: since which, no alteration has taken place. The burnt sponge was taken to the amount of an ounce and a half.

October 26th, 1789. I again visited the above person in labour; and, on visiting her the third day after, found a swelling in the neck of the child, of the same nature and situation as the former. Till November 22d, no means had been used, on account of waiting
for

any change that might take place; at which time, it had considerably increased, but without any other alteration. A sufficient quantity of the following liniment was now directed to be rubbed for a considerable time upon the swelling, three times a-day :

R Camphoræ unciam unam,
Spiritus Ammoniaë compositi,
Olei Olivæ, utriusque pondere drachmas
tres.

Camphoram primum tere cum spiritu in
massam semiliquidam; dein oleum adde,
et trituram continua, donec perfecte
solvatur camphora.

Before the above quantity was used, the swelling disappeared; and, at this time, there is no appearance of return.

Some time before these cases occurred, I met with a case of Bronchocele, in a girl about thirteen, of some years standing. The oily solution of camphor, used two months, with scruple doses of ammonia muriata, taken three times a day, to the quantity of two ounces, and a plaster of ammoniacum with quicksilver, applied afterwards, appeared to have no sort of effect. This patient had taken, previous

to my seeing her, an ounce or two of burnt sponge, using for a dose as much as could be taken upon a sixpence two or three times a day; and the same medicine was repeated soon after the other means were laid aside. At this time, the neck does not appear so full as formerly; but I am inclined to think, that while the general frame has been enlarging, the swelling has been at a stand; as, upon examination, it appears of the former size.

In Mr Lane's cases *, was the burnt sponge taken up in part by the absorbents of the mouth? If so, Might not calomel be employed, in the more obstinate cases, by rubbing it on the internal parts of the mouth, in Mr Clare's way? And might not the following suggestion of an ingenious physician be adopted? "*Forte et conveniunt,*" scilicet *vesicantia*, "*ad tumores præternaturales cysticos*" "*curandos; ut in Bronchocele, quæ sæpe cysticum collectio est; etiam et glandulæ intumescencia in initio †.*"

In

* Medical Commentaries, Decade II. volume III.

† Dissert. Medic. Inaugural. de Vesicantium usu in variis Morbis Tractandis. Auctore Henrico Donly, Lugd. Batav. 1784.

In a woman, aged seventy-three, the left maxillary gland was extremely hard, and so much enlarged, as to be immovable. By the use of the camphorated solution, it was reduced in three weeks.

A young man applied to me, on account of an enlarged inferior inguinal gland, which had once or twice before afforded a partial suppuration, and which was now somewhat painful. By the continued application of the solution, with the internal use of calomel, and occasional laxatives, it disappeared; since which, there has been no return.

About twelve months ago, I was applied to by a woman, aged forty-five, for a hard and painful swelling, with a trifling discharge, about the size of a hazel nut, situated under the chin. It was of some standing, and had repeatedly, after having been painful, discharged matter in small quantity. The liniment was directed to be used, as above; and in a short time the swelling was removed.

I have been induced to pay attention to the external use of camphor, not only from the recommendation of the above gentleman, but from my having seen, some years since, an indolent

dolent tumour, situated on the lower part of the ankle of a person much accustomed to walking, removed by Steers's opodeldoc, a strong preparation of camphor, conjoined with volatile alkali. I am not able to determine between the merit of the oily solution, and that of his formula; only, the latter is supposed to disappear more readily in the friction. Would a spiritus ammoniæ puræ unite more intimately with the oil? and, in that case, might the efficacy of the application be increased?

I can add, from undoubted and respectable authority, that an indolent tumour, situated on the inside of the wrist of a child, which was supposed to have arisen from a frequent lifting of the child by the hands, was removed by the continued application of a poultice made with fresh urine.

VIII.

The History of an Aneurism of the Aorta Descendens, appearing under the form of a Tumour at the Scrobiculus Cordis. By Dr Thomas Concanen, Physician at Dundalk.

THE Reverend Thomas V——, aged thirty-eight, about six years ago perceived a small tumour, near three inches below the cartilago ensiformis, which, on account of his remarkable corpulency, and the good state of his general health, did not attract his attention to any great degree. About two years after, however, his appetite became much impaired, and his strength considerably diminished. The tumour now became evident, as an emaciation had proceeded with rapid strides. In this situation he remained till about eighteen months ago; when, from the increased size of the swelling, and the alarming

ing state of other symptoms, he was obliged to have recourse to the advice of Dr Gernon, a physician in this town. When this gentleman was called in, to his other complaints were added an obstinate obstipatio, and a severe vomiting, the contents of which were of a blackish colour, and of a tolerably thick consistence. The Doctor prescribed remedies, with a view to stop the vomiting, and to counteract the costiveness. These, however, did not answer his expectations; for when the former was checked, the latter symptom became more severe; and so on, *vice versa*. In this manner was palliation attempted, till six months more had elapsed; at which period, a considerable thirst supervened. His urine was diminished in quantity, and his ankles became swelled at night, and were observed to retain pits on pressure. In the morning, however, the swelling, if not totally gone, had in a great measure disappeared. These dropical symptoms (the thirst excepted), after having continued for some months, went off spontaneously; for the severity of the vomiting prevented the exhibition of medicines.

This account of his complaints I received from Dr Gernon, and the reverend Gentleman himself, on the 6th of July 1788, when he applied to me for my opinion. His thirst was now immoderate, to indulge which, he drank cooling fluids; his appetite so much impaired, that, to use his own expression, he ate only to support the tottering remains of life. The vomiting took place to an excessive quantity, and in quality similar to the description previously given to me by Dr Gernon; his sleep, disturbed and interrupted; his pulse 92, and small, feeble, and irregular; and, to close the description, the emaciation had advanced so rapidly, that I could with ease examine the tumour. After having placed him in an horizontal position, I found it in the place formerly mentioned, but somewhat inclining to the left; the size extremely large indeed, and of an irregular roundish shape.

On the first view, and from recollecting the dropical symptoms with which he had been formerly affected, I was somewhat induced to think, that his disease was an encysted dropsy. However, the paleness of his countenance, the great diminution of strength, the sudden disappearance

appearance of the dropfical affection, without the employment of medicines; all concurred to make me give up an opinion which I had formed rather haftily. In this fufpense, I took a fecond view of the tumour; and was furprifed to find it poffeffed of an evident pulfation. Some idea of an *aneurifm* of the defcending aorta then ftruck me; and in this I was fully confirmed, by finding, on examination, that the pulfation of the tumour was fynchronous with that of the radial, carotid, and temporal arteries. Dr Gernon, from my ftatement of thefe circumftances, did not hefitate in concurring with me in opinion. The fingularity of the fact, is, in my opinion, the only objection that can be made againft its veracity. Dr William Hunter, if I recollect rightly, has defcribed one in the Medical Observations; and the appearances, on diffection, remove even the poffibility of a doubt. Though, from motives of delicacy, we did not afk permiffion to infpect Mr V————'s body, yet the manner of his death, which happened about thirteen days after I was firft called in, affords a pretty convincing, though not an abfolutely certain proof, that we were not deceived in

our opinions. About three days before his demise, he did not imagine his complaints aggravated; yet he died suddenly, and so unexpectedly, that his friends were by no means prepared for the event. It is almost unnecessary to add to this history of his case, that nothing effectual could be done by his physicians. We, in brief, advised him to avoid every species of irritation, to use no extraordinary efforts or exercise, and to confine himself to a spare, cool diet. Those cautions must appear of weight to every medical practitioner.

IX.

History of a singular Case, of an intermittent affecting the right Temple; and of a remarkable Tumour in the Abdomen, successfully treated. By Mr Samuel Davidſon, Surgeon at Rothbury, in Northumberland.

WILLIAM B——, labourer, aged forty-one, applied to me for advice, on the 9th of January 1789. Fourteen days before, he received a stroke on the right eye with a piece of wood, of which he soon recovered. About a week ago, he was seized with a shivering paroxysm, which continued for two hours, and was succeeded by a severe pain in the right eye and temple, which goes off by a sweat in the space of two hours. The cold fit, and pain, attack periodically, about nine o'clock, and the paroxysm continues till twelve o'clock. When the pain comes on, he is deprived of the sight of that eye; and for

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the remainder of the twenty-four hours, he is free from every complaint. His eye is much inflamed; and he is costive.

I ordered an emetic to be taken before the attack of the next paroxysm; which however did not mitigate it.

Applic. hirud. No. IV. temp. dextr.

Capt. sal. Glaub. unc. fs. statim ex aq. fervente.

Applic. Vesicat. pone dextr. aur.

R Tart. Emet. gr. $\frac{1}{4}$. Aq. bullient. unc. i.
Tinct. Opii gtt. xxv. M. Capt. mane
aggred. paroxysm. feb.

12th. The pain continued yesterday in the eye, till night. Had five stools. The paroxysm began at eleven o'clock, A. M. this day. He took the draught, which, he thinks, mitigates the paroxysm.

Capt. Pulv. Cort. Peruv. drach. i.
2da quaque hora.

13th. The paroxysm continued with great severity till twelve o'clock at night. Had a return of the fit at eleven o'clock this forenoon.

Cont. Pulv. Cort. et adde singul. dos.
Puly. Rhei gr. iij.

14th.

14th. The fit of shorter duration yesterday. The pain in the eye came on as usual; and is worse this day, and much inflamed.

Rep. Pulv. Cort. Peruv. sine Rheo.

Cap. Bol. cum Calomel. gr. v. h. s. ad duas vices.

16th. The disease has yielded nothing to the course he has been following.

Applic. Vesicat. Cap.

Cap. Pulv. Dov. scr. i. aggred. paroxysm.

18th. Sweated much yesterday with the powder, which prevented the paroxysm. This day the pain is as severe as ever.

Rep. Bol. cum Calomel. gr. v. h. s. et Pulv. Dover. mane.

Rep. medicament. ad duas vices.

Applic. hirud. iij. juxta part. affect.

19th. Costive for four days. The chilly fit began, and did not take the powder.

R Pil. Aloet. drach. fs. Calomel. ppt. gr. xx.

M. f. Pil. vi.

Cap. ij. h. s. omn. noct.

Mitt. sanguin. ex arter. temporal. ad unc. vi.

20th.

20th. Leeches were tried, but did not fix.
The powder prevented the pain.

Perg. cum Pulv. Dover.

21st. Has a fit this day.

Rep. Pulv. Dover.

23d. The paroxysm came on yesterday, having neglected the powder; and it continued with great severity the whole day. His mouth is nowise affected by the Calomel.

& Aq. Minth. pip.—Puræ aa. unc. viii.

Pulv. Cort. Peruv. unc. ii.

Sal. C. C. drach. i. M.

Capt. unc. i. 2da quaq. hor. paroxysm.
absente.

25th. The pain returned yesterday as severe as ever. The fit not so severe.

& Pulv. Ipec. scr. i. Tart. emet. gr. i.

M. f. Pulv. emet. statim sumend.

Repet. Mistur. cum Cort. Peruv.

27th. The pain still returns once a day, though not with such severity as formerly.

Rep. Bol. h. f.

Rep. Mist.

February 8th. The pain did not recur for three days; but has returned again, slightly.

Applic.

Applic. Vesicat. tempor. affect. et postea fiat, Fonticul. ope ungt. Epispast.

Intermitt. Mistur. Peruv.

14th. The pain still returns slightly, at times. The eye a little inflamed. The issue is healed up; but he found no benefit from it.

Mitt. Sang. ad unc. x.

Sumat. Calomel. ppt. gr. v. h. f. in form. bol.

R Infus. Senn. unc. iifs. Tart. Solub. drach. i. M. capt. mane.

20th. The pain and inflammation are now quite gone, and the paroxysm removed entirely.

I attribute the cure of this case to the Bark and Calomel.

CASE II.

Mrs D——, aged twenty-six, a widow-lady, the mother of two children, was affected with a swelling under the left ear, which began first to appear about the month of May 1788, and gradually

gradually increased in size till the month of November 1789. It had every appearance of a scrophulous tumour, and was about the bulk of a goose egg ; but did not come to suppuration. Notwithstanding the increase of this tumour, she enjoyed pretty good health and spirits.

I was called to her on the 16th of November 1789 ; when I found her complaining of great pain in the right side of the abdomen, attended with nausea, vomiting, and thirst. Her pulse was small, and beat one hundred and thirty strokes in a minute. She was also constive, and had been so for two days.

On farther inquiry, she informed me of a tumour she had felt for four months past, situated about an equal distance between the umbilicus and the spine of the os innominatum on the right side. This tumour, which was at first very small, continued increasing till the time I was sent for, without much pain or uneasiness, except at times ; but which were never very severe, and always of very short duration.

On examining the tumour, it felt deep-seated, hard, moveable, and of size sufficient to fill the whole length of the hand, with a gradual

dual decrease of its bulk, towards the os innominatum and umbilicus. The pain in the tumour, during this attack, was so excruciating and exquisite, that she could not suffer the weight of the bed-clothes on the part. Her catamenia had been always regular; except that, for a few months past, they had appeared in somewhat less quantity.

Ten ounces of blood were taken from her directly; but the blood had no buffy coat. I next ordered her repeated doses of aloetic pills, with opium and laxative glysters, to remove the costiveness; and also a saline julep, to abate the vomiting. Leeches were applied to the tumour; and afterwards it was rubbed with a liniment of camphor and vitriolic æther. In the course of four days, the nausea and vomiting, and the pain, gradually diminished, by observing a strict adherence to these medicines; but there was no decrease of size in the tumour.

After the symptoms were abated, I ordered her gentle exercise, the cold bath, and put her under a course of cicuta, conjoined with the Peruvian bark. By persisting in the use of these medicines for three months, the tumour

mour gradually decreased; and, at the time of writing this account of her case, she enjoys good health and spirits, without any return of the tumour. It is proper to observe, that the tumour under her ear always remained, and is still the same, without coming to suppuration.

X.

History of a singular Dropfical Affection of the Scrotum, terminating fatally. Communicated in two Letters from Mr Patrick Maxwell, Surgeon to the 54th Regiment, to Dr William Robertson, Surgeon to the 42d Regiment, and by him to Dr Duncan.

August 28. 1788.

THE patient whose case I am now to describe to you, was a gentleman about the 35th year of his age. He had always enjoyed uninterrupted health, and was very active. He shewed no appearance of any dropfical diathesis, nor were there any symptoms of the abdominal viscera being scirrhus, or any way diseased. In the year 1775, when in the island of Antigua, he was suddenly seized, in the night, with a violent pain in the region of the kidney, without being able to assign any cause for it. He was also affected with a great degree

gree of fever, vomiting, and purging: His scrotum, also, on the same night, swelled much, and was very painful. The affection of the kidney, which, I suppose, depended on inflammation, yielded to the common method of treatment; but the swelling of the scrotum baffled every external and internal remedy that had been applied; and many had been used, by the advice of different medical men. He had been subject to several attacks of the disease in the kidneys, in the West Indies; but, for four years before I saw him, he had no return of it.

After giving this account of the origin of his disease, he shewed Mr Paddock, late surgeon to Thomson's American dragoons, and me, his scrotum, which, at that time, was enlarged to about the size of a child's head. It was very much corrugated, and quite red. We could distinctly trace a fluid all through its cellular substance. We could, at the same time, easily feel the testicle, and other contents of the scrotum, not enlarged; nor was there any appearance of their being diseased, or at all concerned with the anasarcal look or feel. He shewed us, that by bathing the scrotum in cold water, which he did very frequently in
the

the course of a day, it was very considerably and instantaneously diminished. He also told us, that in the morning when he got up, it was nearly of the natural size. This we accordingly found to be the case; but we could not perceive where its contents went at that time. He felt no fulness in the region of the bladder, or in any contiguous part; he had no pain, at any time, from the swelling; he performed all his natural functions regularly and unimpaired; and his complaint was inconvenient only from its bulk. He ate and slept well, and attended his business as if he had had no complaint whatever.

After considering his case, we told him, that it seemed to us to be a local disease of the scrotum, unconnected with the system. We proposed to make several scarifications to carry off the water, or whatever the fluid might be, hoping it would not again accumulate, and imagining, that in consequence of a degree of inflammation taking place, it might contract and heal, on the same principle as happens in the incision for the Hydrocele; but, if this should not be the case, we imagined, that when the fluid was evacuated, if it should appear that

the contents of the scrotum were not concerned, we might with safety lop off part of it, or we might brace it by tonic applications, and strengthen the system in general, by the cold bath, Peruvian bark, and the like.

Our plan was agreed to, and we met to execute it. On the first incision being made, instead of limpid water, oozing out gradatim from the cells, as is common in anasarca swellings, and as we expected, there was a large and continued stream of a fluid that resembled equal parts of blood and milk, intimately mixed. The discharge of this fluid, at that time, amounted to upwards of three pints. When discharged, it first coagulated, and then separated into two parts. The crassamentum seemed evidently to be blood; but the fluid part so exactly resembled milk, that it was impossible to distinguish it from milk by the appearance. It had no smell, and the taste was a little saltish.

We visited him on the evening after the operation, and found him as well as usual. He had not suffered any pain; he was not affected with any fever; and, in short, no alteration whatever had taken place. The appearance

pearance of the scrotum was the same. We removed the lint from the scarification; upon which, the discharge again began, in a continued stream as before; and there was evacuated more than a pint of the same fluid mentioned above.

Next morning, we found that matters continued in every respect the same. On moving the dressings, the discharge of more than a pint of the same fluid again took place; and, by the same means, a similar discharge was induced, both before dinner and at bed-time. In this manner, for the space of twelve days successively, we continued to draw off from three to four pints a day, which amounted to a great quantity. When we found the source of the discharge inexhaustible, we directed him not to take off the lint; and, in consequence of its remaining twenty-four hours without being removed, the incision was healed.

There has now been no discharge for upwards of a month; and the appearances at present are the same as they were the day before the incision. I am persuaded, that if a puncture were now to be made, it would discharge

as freely as ever, and exactly the same fluid. It must appear extraordinary, that he never found himself in the least degree weakened by so considerable a discharge, but went about as usual, without any uncommon inconvenience; and he would at present, without hesitation, suffer a fresh incision. He took no medicine, but a little Peruvian bark, which he now continues to do. We took a little blood from his arm, to see the appearance of the circulating fluid, and we found it natural.

March 18th, 1789.

The patient, of whose case I wrote you an account, in my letter of the 28th of August 1788, unfortunately died some weeks after the date of that letter. We had an opportunity of examining the body after death. But I think we have still to lament, that it proved one of those cases which baffles all our theories, however ingenious and plausible. At least, I confess I have not found any, which, to me, furnished a satisfactory account for the peculiar appearances, or which led to any use in practice.

Mr

Mr B. continued free from complaints, and as well as usual till the 19th of September. At that time, I was from home; and am indebted for the two following days reports to my friend Mr Paddock, who attended him all along with me. According to Mr Paddock's account, he suddenly began to complain of nausea, soreness of his bones, pain in the region of the kidneys, and in the testicles. His scrotum was much distended, with a great degree of heat, which generally accompanied it in its relaxed state. He was costive, and his pulse quicker than usual, but not full. A cathartic was ordered for him, which operated well in the evening; the nausea was gone, and the pains abated.

Mr Paddock was sent for early in the morning of the 20th, and found him very restless. He had slept but little during the night, and complained of severe pain in his breast, and difficulty of breathing. His pulse was quick and full. He was bled to twelve or fourteen ounces, and had volatile liniment to rub on the pained parts. The following powders were also directed for him. R Sal. Nit. drach. i. Tart. Emet. gr. iiss. M. f. Pulv. et

C c 3

divid.

divid. in dof. vi. quar. cap. un. secunda quaq. hor. In the evening, he was still restless; the pain of his breast was easier, but the powders did not produce any perspiration. The heat of his scrotum was intense; and it was distended to an enormous size.

In this situation, a fresh scarification was made in the scrotum, by which, at least, a pound and a half of the same fluid, as formerly described, was drawn off. A solution of Sach. Saturn. and Opium in water, was also directed to be applied cold to the parts. As often as he applied this, it afforded him some relief, though perhaps not more than cold applications, in general, had always done. In the evening, his pulse was feeble, and he shewed evident marks of irritability. He was ordered some sago, wine, and had an anodyne.

On the morning of the 21st, I visited him, with Mr Paddock. We found that the pain of his breast still continued severe; his skin was dry and parched; his pulse weak; his scrotum distended; and he complained of feeling his testicles as if contracted. We directed a small quantity of opium to be added to the powders, and renewed the discharge, by
only

only removing the dressings; and we ordered the cold application to be continued. In the evening, we found him still very weak. He had not slept any, nor had there been any obvious perspiration. We ordered the anodyne to be repeated, and recommended wine with all his nourishment, of which he took a considerable quantity, particularly of Sago, Custard, and Gruel.

On the morning of the 22d, strong symptoms of irritability marked all his actions; his pulse was hardly to be felt at the wrist; he had frequent partial cold sweats, and nausea at his stomach at times. His scrotum also was very much distended. We drew off from it more fluid, and ordered him small doses of James's powder, at intervals of two hours. In the evening, they had not produced any visible effect; but, about seven o'clock, a cold sweat was universal over his body, which, with other marks of approaching dissolution, continued till eleven, when he expired.

On dissection, the scrotum was, I may say, the only part that shewed marks of disease; and that, not more than it had done for the many years that he laboured under this com-

plaint, feeling little inconvenience, except from its size. It was very much thickened, and greatly corrugated. It had always been observed to be much distended by heat and exercise, and evidently contained a fluid in its cells. It was suddenly contracted by cold applications, and rest; and then the fluctuation disappeared. We never could discover where the fluid went, or the source from whence it was supplied. The testicles were of the usual size. One, we thought, was a little inflamed; but, excepting that, the whole contents of the scrotum were in a perfectly natural state. The bladder, kidneys, and other contents of the abdomen, shewed not the least sign of disease, or the least appearance of being, in any degree, connected with the discharge.

There was not any accumulation of a fluid of any kind, or any relaxed or dropical appearance of any of the contained or containing parts of the abdomen, or of the thorax, which was also examined. There was no preternatural thickness at the ring, no uncommon sac, no unusual connection, which we could discover, between the cells of the scrotum and abdomen. The fluid never appeared

to be encysted, but always diffused, though confined to the scrotum. Every other part seemed perfectly sound. Thus, the appearances after death did not discover to us any thing to account for the peculiar nature or cause of this discharge.

SECT.

S E C T. III.

M E D I C A L N E W S.

IN our last volume, we gave some account of a most important undertaking which was begun at Edinburgh; the rebuilding of the College. We had, at that time, singular satisfaction in being able to mention, that the foundation-stone of this new building was actually laid on the 16th of November 1789: and it now affords us no less pleasure to be able to inform our readers, that the progress made in this undertaking is already very considerable. The walls on the east and north sides of the intended square, are already raised to a considerable height. But the greatest progress is

is made at the north-west corner, which is intended for the new Anatomical Theatre. The foundation-stone of this part of the building was laid on the 31st of March last; and a bottle, hermetically sealed, containing the following inscription, was deposited under the foundation-stone by Dr Monro.

THEATRUM HOCCE ANATOMICUM,
CONDITUM EST ANNO ÆR. CHRIST. M.DCC.XC.
DIE M. MARTII 3IMO,
CONSULE THOMA ELDER,
ARCHITECTO ROBERTO ADAM,
MEDICINÆ ANATOMIÆ ET CHIRURGIÆ PROFESSORE,
ALEXANDRO MONRO, M. D.
ALEXANDRI FILIO.

Ab anno 1720 ad annum 1790, Anatomix et Chirurgix operam dederant Studiosi 12,800.

Ab anno 1720 ad annum 1759, Professore Alexandro Monro, Patre, 4431.

Ab anno 1759 ad annum 1790, Professore Alexandro Monro, Filio, 8369.

Primo

Primo Decennio, ab anno 1720 ad annum 1730,	
adfuerunt Studiosi	- - - 670
Secundo Dec. ab anno 1730 ad annum 1740,	1090
Tertio Dec. ab anno 1740 ad annum 1750,	1476
Quarto Dec. ab anno 1750 ad annum 1760,	1327
Quinto Dec. ab anno 1760 ad annum 1770,	1942
Sexto Dec. ab anno 1770 ad annum 1780,	2870
Septimo Dec. ab anno 1780 ad annum 1790,	3425

 12,800

Hæc, propria manu, scripsit Alexander Monro,
 Anatomiae et Chirurgiae Professor, Die M.
 Martii 3imo, Anno P. C. N. 1790, Edinburgi.

In the plan of the new Anatomical Theatre, every attention has been bestowed to afford the utmost possible accommodation for teaching this fundamental branch of the healing art. And although the Anatomical Theatre in which Dr Monro at present teaches, be more commodious than almost any other part of the old College, in consequence of its being an additional detached building, erected only twenty-six years ago, yet his students will hereafter possess many advantages which they have never hitherto enjoyed; for Dr Monro will now be furnished, not only with a com-
 modious

modious class-room, but also with excellent preparation-rooms, dissecting-rooms, and many other conveniences. Such is the progress already made in this part of the new College, that the Theatre itself, and all the adjoining buildings connected with it, will certainly be ready for the reception of the students by the commencement of the next Winter Session, in October 1791.

Considerable progress is also made in the building of some of the other medical class-rooms; all of which, according to the plan of the new College, are situated on the north side of the intended square. And, if the Trustees be not disappointed of that aid from the public, which they with some degree of confidence expect will be afforded to an object of such great national utility, the whole of the teaching-rooms intended for the Professors of Medicine, and Medical Philosophy, will be completely finished by the commencement of the Session beginning in October 1792.

As, however, the funds of the University of Edinburgh are totally inadequate to the accomplishment of this undertaking, a voluntary subscription has been set on foot, with the
view

view of aiding it. And it is no inconsiderable proof of the encouragement which Science meets with in the present age, that the sum already subscribed amounts to 18,019l. 3s. 7d. Sterling, and 322l. 10s. Jamaica currency. Among the list of subscribers are to be found, not only the names of inhabitants of Edinburgh, and of pupils of the University, but also those of many respectable characters at a distance.

Medical men of the first eminence, have, in particular, been forward in promoting this undertaking. Among others, we may mention the distinguished names of Sir George Baker, Dr Warren, and Mr John Hunter of London, whose example, in different respects, is well worthy the imitation of medical practitioners in general. The early countenance and encouragement given to this undertaking by Drs Wall and Thomson, Medical Professors in the University of Oxford, is a proof, that, among liberal and enlightened minds, no other rivalry exists in Science than what tends to its advancement. We are also informed, on respectable authority, that among others whose good offices have been exerted in support of this undertaking, that

eminent

eminent philosopher Dr Watson, the present Bishop of Llandaff, deserves to be particularly mentioned.

We have no doubt, that in due time these illustrious examples will be followed by all who are really interested in the advancement of Science. And we cannot more strongly recommend this undertaking to our medical readers, than in the words of a worthy and learned physician, who, in a letter to a correspondent on this subject, expresses himself in the following terms.

“ I have with great pleasure paid into the
 “ hands of Messrs Drummond, my subscrip-
 “ tion for rebuilding the College of Edin-
 “ burgh. I have not the honour to call
 “ Edinburgh my Alma Mater; but I ac-
 “ knowledge obligations to her, in common
 “ with the whole profession of physic. And
 “ I trust, there will not be found a practi-
 “ tioner of any description, who will think
 “ himself so unconnected with the first medi-
 “ cal school in Europe, as to withhold his
 “ assistance on the present occasion.”

It cannot, however, be alleged, that this scheme has met with a warm and cordial re-
 ception

ception from every body. Nor can the coolness of some people at a distance seem wonderful, when it is considered, that not a few opulent inhabitants of Edinburgh, have not yet given any aid to this undertaking; and plausible reasons have not been wanting for their delay. By some it has been alleged, that the former buildings, though many parts of them were confessedly in ruins, and patched up from year to year at a very considerable expence, may yet have done well enough for some time to come; that even supposing a new College to have been absolutely necessary, yet that the plan now adopted is by much too expensive; that this plan cannot be executed for less than one hundred thousand pounds, and that of course it will never be completed; that a great deal of unnecessary expence is intended to be bestowed in erecting splendid houses for all the Professors, and lodgings for students; and that it is folly to think of now erecting any building for the purposes of Science, which can compare with those reared in times of monkish ignorance and arbitrary power, when the craft of priests, or the will of
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of a monarch, could command almost any sum which the subjects possessed.

We need hardly observe, that it must appear to every candid reader, that some of these objections are by no means solid. But it may not be improper to add, that others, which may seem at first sight to be of some weight, are by no means founded in truth.

In place of 100,000 l., the trustees are assured that the whole will be executed for less than 60,000 l. It is no part of the plan, to build rooms for lodging students; and those Professors who formerly resided in the town, must still find lodgings there for themselves. It is indeed intended, that the Principal of the University, and those few Professors who had formerly houses in the College, most of whom teach three or four hours every day, and cannot therefore reside at a distance, shall have houses in the new College, as they had in the old one. But although these houses, viewed altogether, and in conjunction with the public buildings to which they are attached, form an elegant external appearance, yet in reality, each taken by itself, is but a small house; and it is by no means intended, that

they shall be finished in an expensive manner.

When it is considered, that nearly one third of the sum necessary for finishing the whole of the building has been subscribed in the space of one year, there is certainly reason to hope, that in no long time, the remainder may be obtained. Those who are ambitious of the name, and entitled to the character, of being Friends to Science, and Citizens of the World, will not be backward in giving some assistance towards the accomplishment of this undertaking. Even the medical pupils of the University alone, now in affluent and independent circumstances in different parts of the British dominions, amount to some thousands; and as we are persuaded, that no set of men retain a more grateful remembrance of the benefits they have derived from their studies at Edinburgh, so we trust that none will show greater exertions in promoting a plan so conducive to the future fame of its University, and to the advancement of Medical Science.

It is the boast of the present age, that at no period in the history of mankind, has Science been more liberally cultivated than at present;
and

and when we reflect, that arbitrary power, and monkish ignorance, have raised many fine fabrics as nurseries of Science, it will certainly be a disgrace to this age, if posterity shall be able to say, that the voluntary contributions of a free and enlightened people could not rear the walls of one College, which, though its buildings, which were always contemptible and inconvenient, have now fallen into a state of absolute ruin, has been long, and of late more than formerly, frequented by a numerous course of students, not only from every quarter of the British dominions, but also from many foreign countries.

In a future volume of this Work, it is our intention to publish an Alphabetical List of the Medical Subscribers; and we trust, there will be but few of the respectable pupils of the University of Edinburgh now living, whose names will not appear as aiding her with their countenance and support on the present occasion.

This undertaking is conducted by a respectable body of Trustees, consisting principally of official people at the head of different incorporated bodies about Edinburgh, particularly

those connected with Divinity, Law, or Physic. Subscriptions are received, and receipts for the money subscribed, are granted, by the different public Banks at Edinburgh; and by Messrs Drummond and Company, Charing-cross, Messrs T. Coutts and Company, in the Strand, and the Honourable Thomas Harley, Cameron and Son, in the city, London.

* * * *

It is now many years since the illustrious Haller turned the attention of physicians to the irritability of the muscular fibre; and we need not remind the well-informed reader, of the controversies which subsisted between him and the late celebrated Dr White of this place, respecting its cause; and particularly, whether it was to be considered as a primary, inherent quality of the animal fibre, and dependent on its gluten, as was supposed by the former; or was to be viewed as being entirely derived from the nervous influence, as was
the

the opinion of the latter. But although their difference of sentiments with respect to it, gave rise to much ingenious speculation, yet neither the one nor the other ventured to suppose, that it was to be considered as the cause of every disease to which the animal body can be subject.

This, however, is a doctrine which has of late been strenuously supported by some very ingenious Students at this place, who have not been deficient in adducing plausible arguments to give it at least the appearance of probability. Our readers may recollect, that, in our last volume, we gave an account of a paper upon the irritability of vegetables, read before the Natural History Society of Edinburgh, by Mr John Gahagan; in which that Gentleman endeavoured to prove the similarity of that irritability which plants possess, to the irritability of animals; and concluded, that since plants, possessed of irritability, but without a brain and nerves, exercise most of the functions of vitality, it is probable, these functions in animals are equally independent of nervous energy. In the paper mentioned above, Mr Gahagan is disposed to ascribe almost every phænomenon of the living body,

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both in a state of health and disease, to irritability, which he considers as a primary, essential property of the muscular fibre, and altogether independent of the nervous power.

Since that period, the Gentleman above-mentioned has taken the degree of Doctor of Medicine at the University of Edinburgh; and in his inaugural dissertation, *De Inflammatione*, he has strenuously supported the same doctrine with much ingenuity. In another inaugural dissertation also, published at Edinburgh at the same term, by Dr Henry Bowles, this doctrine of irritability is supported by much acute reasoning. Both these Gentlemen acknowledge their obligations for the doctrine, as they have delivered it, to Mr Edward Ash, their fellow-student at this place, lately appointed by the University of Oxford to one of the Radcliffe Travelling Fellowships, and at present prosecuting his studies abroad. Dr Bowles, in particular, mentions, that a more full explanation of this doctrine may soon be expected from Mr Ash himself. But it is not improbable that his intention may have been interrupted, by the change which has taken place in the course of his studies.

Among

Among other gentlemen at Edinburgh, who were strenuous advocates for this doctrine, we may mention Dr Girtanner from Switzerland, whose name is already favourably known to the medical world by different publications, and particularly by his Treatise on the Venereal Disease, of which an analysis was given in our last volume.

In a late number of the Journal de Physique of Paris, Dr Girtanner has published at some length his sentiments on this subject; and we presume, that the following view of his opinions will not be unacceptable to our readers. And although we must acknowledge, that, as a general system, explaining the nature and cure of every disease, this doctrine appears to us to be liable to numerous and insurmountable objections, yet we think, that, from its ingenuity, it not only deserves notice, but may have the effect of turning the attention of physicians to the consideration of irritability, with advantage to medical science.

*On Irritability, considered as a Vital Principle
in Organized Bodies. By Chr. Girtanner,
M. D.*

THE discovery of the contraction of the muscular fibre, on the application of a stimulus, or of what the immortal Haller called animal irritability, ought to be considered as one of the most important that have been made in physiology. It seems surprising, that though this discovery has been made forty years ago, no one has undertaken to examine it more particularly. Perhaps the reason is, that it was not favourably received by the public at the time it was made; and that it has required thirty years to establish it, and to defend it against physicians who attacked and warmly opposed it.

Wishing to understand more properly this singular property of the muscular fibre, and dissatisfied with what I have found in authors relating to it, I undertook a laborious investigation of the subject. I began by making various experiments with various poisons, the effects of which on the muscular fibre I at-
tended

tended to. I repeated and multiplied these experiments, because I am persuaded that it is only by the light of experiment that we can penetrate into the sanctuary of nature, without the risk of bewildering ourselves.

I owe much to the works of Fontana; and it is by following the footsteps of that great philosopher often, by leaving them sometimes, and by shunning the mistakes into which he has fallen, that I persuade myself I have found the truth.

I shall not here speak of the new views of the physiology of the human body, and of diseases, which immediately follow from the results of my experiments; nor shall I enter into a detail of these experiments, because they will be related in a work I mean to publish in Germany next year. I shall only now give some detached propositions, unaccompanied with the proofs, which may serve as a prospectus of my work, and which may attract the attention of some philosophers.

All organized nature is composed of solids and of fluids. The solid parts of animals and of plants, are composed of three sorts of primitive fibre, *viz.* the earthy, the sensible, and irritable

ritable fibre. The earthy fibre, forms the bones of animals, and wood of plants. It is inorganic, insensible, inirritable ; is subject to no other laws than those of inorganized matter, and has no life but in combination with the irritable fibre. The sensible or nervous fibre, is that which constitutes the nerves in animals. Plants are destitute of this species of fibre ; at least it has not yet been discovered in the vegetable kingdom. It is totally incapable of irritability or contraction ; it is acted upon only by the irritable fibre. Each muscular contraction produces a change on the adjoining nervous fibre. This change, in the living animal, reaches to the origin of the nerve, in the brain or spinal marrow, and is called Sensation.

Thus, every stimulus which acts on the living irritable fibre, produces in it, immediately, contraction, and immediately sensation ; that is, no stimulus can act on the nerve, but by the intervention of muscular fibre. When this latter has lost its irritability, and is become either paralytic or gangrenous, there can be no sensation, although the contiguous nerve should be perfectly sound. When, on the other

ther hand, by any accident, the nerve is become insensible, or has been destroyed, the muscular fibre will continue to contract, upon the application of a stimulus ; but no sensation will follow, because the connection between the muscular fibre, and the origin of the nerve, is destroyed. Sensation and motion are therefore two properties of organized matter, essentially different. Sensation is only a secondary property, which depends on the irritable fibre, and cannot exist without it. Irritability, on the contrary, is a primary property, essential to the living irritable fibre, and absolutely independent of the nerves. I know that this proposition is contrary to the opinion generally received, which makes irritability depend on the influence of the nerves. I, too, adopted this opinion ; but manifold experiments have convinced me that it is erroneous. Not only does the irritable fibre act on the sensible, and produce sensation ; but the sensible fibre reacts on the irritable, and produces contraction. This is the cause of voluntary motions, of convulsions, and of what are called nervous diseases. The action of the nerves on the muscular fibre, is in nothing different from that
of

of any other stimulus ; and I shall therefore call it the Nervous Stimulus. The irritable fibre, improperly called the muscular fibre, pervades all organized matter. On it depends organic motion, sensation, and even life ; and on it, the bodies that surround it continually act, by stimulating it, and forcing it to contract. It is of this fibre that I am about to speak, and of the laws that are the consequence of the irritability it is endowed with.

But, before entering upon this discussion, it will be necessary to prove, that the irritable fibre is universally diffused through all organized bodies. Its existence is known, and generally admitted, in animals with warm blood ; and in some that have cold blood, such as frogs, lizards, tortoises, serpents, eels, and fishes. Insects, worms, and plants, are not less endowed with irritability. The spiral tongue of butterflies is exceedingly irritable, and contracts upon being stimulated, even after having been cut in pieces, and separated from the animal. The irritability of oysters, of medusæ, and of polypi, is well known. The nautilus rises from the bottom of the sea to the surface, by alternately contracting and dilating its irritable

able fibres. The pendant chrysalis of the papilio urticæ is very irritable, especially for a few days after its formation. The skin with which the caterpillar was covered, and which it has just quitted, acts as a stimulus to the newly formed chrysalis, which is seen to contract and dilate alternately, till the dried skin falls off. Swammerdam saw and figured the muscular fibres, and observed their alternate contractions and dilatations in a louse, and even in the foetus of a louse, inclosed in a microscope. Others have observed the same in other insects, and in microscopic animals.

The existence of the irritable fibre, in the vegetable kingdom, is proved by facts not less singular. The leaves of the *Drosera rotundifolia*, and *longifolia*, contract when touched with the point of a pin, and dilate when the stimulus is removed. The leaves of the *Averrhoa carambola* contract when touched, compressed, or pierced. The leaves of many species of *Mimosa*, especially those of the *Mimosa pudica*, contract upon being touched, or when exposed to the action of a burning-glass, electricity, ammoniac, musk, opium, or any other stimulus. The same phænomena are observable

servable in the *Onoclea sensibilis*, *Oxalis sensitiva*, *Dionæa muscipula*, *Hedysarum gyrans*, &c. The parts of fructification are especially irritable. The stamina of the *Berberis vulgaris*, of the *Heliotropium*, *Calendula*, *Cistus appenninus*, *Lilium superbum*, *Cactus*, *Forskohlea tenacissima*, and of several others, contract on the application of a stimulus. The stigmata and pistils exhibit the same phænomena.

The existence of the irritable fibre, in all organized bodies, being thus proved, there arises another question, well worthy the attention of the philosopher.—Is this irritable fibre the same, and subject to the same laws in every part of nature, or is it differently modified in different animals and different plants? Are effects, similar in appearance, produced by different causes? This problem is important, but of difficult solution. In the deduction of general rules from some particular phænomena, we are in danger of bewildering ourselves in the labyrinth of analogy, where so many talking philosophers have lost themselves, because they have presumed to enter it without the clue of experience. This has been my guide; and, after repeated experiments

ments and observations, I consider it as demonstrated, that the irritable fibre is the same, and subject to the same laws, throughout all organized nature. This truth being discovered, has presented to me an ample harvest, which the sickle of the philosopher has never touched.

There are three kinds of irritable fibre: the straight, which is found in the muscles of animals, in the leaves, stamina, and several other parts of plants: the spiral fibre, found in the arteries, veins, lymphatic vessels, intestines, and, in general, in all the vessels, and cylindric or conic muscles of animals or plants: the circular fibre, or what we call sphincters. The straight fibre contracts in length, or is shortened in contraction; the two ends approaching one another, at the instant it is touched, or any of its parts, by a stimulus. The spiral fibre, in contraction, diminishes the diameter of the vessels which it forms. The contraction does not take place, at the same instant, through the whole length of the fibre, as in the preceding; but is communicated successively to its different parts. The contraction begins at the place to which the stimulus is applied,

applied, and is continued in the direction of the ordinary motion of the fibre, to its termination. By this contraction, which is also called peristaltic motion, the fluids contained in the vessels are impelled forwards, and circulation goes on. This circulation takes place in vegetables as well as in animals, and is carried on in both by the peristaltic motion, which is the effect of the irritability with which the fibres are endowed. The circular fibre, when it contracts, closes the opening of those vessels, at the end of which it is generally placed.

The fluids of animals and plants are endowed with irritability, as well as the solids. Their irritability consists in coagulability; and that coagulability of the fluids is subject to the same laws as the irritability of the fibre. This is a new discovery, which is the foundation of many important truths.

The degree of irritability in the solids and fluids, changes continually, and differs according to the age and system of the animal or plant, and according to the sex, organization, and size of the different individuals. It is also accumulated by the abstraction of habitual stimuli,

stimuli, and is exhausted by the application of stimulants too frequently repeated, or too strong.

We may remark three different states of the irritable fibre, or three different stages of irritability of which it is susceptible. *1st*, The state of health, peculiar to each individual, which I shall call the tone of the fibre. *2^d*, The state of accumulation, produced by the abstraction of habitual stimuli. *3^d*, The state of exhaustion, produced by the action of too strong a stimulus.

The state of health, or tone of the fibre, consists in a certain quantity of the irritable principle necessary to its preservation, or in an equilibrium between the acting stimulus and the irritability furnished by the lungs and the circulation. When the sum of the stimuli acting on the fibre is not strong enough to deprive it of all its excess of irritability, the irritable principle is accumulated in the fibre, which is then in a state of accumulation; and stimuli produce contractions much stronger than when the fibre was in tone. When the sum of the stimuli acting on the fibre is too great, the fibre is deprived, not only of its ex-

cess of irritability, but also of a part of the irritable principle necessary to its tone; or rather, the fibre loses more irritability than it receives, and is, consequently, in a state of exhaustion, either temporary or irreparable. In a state of temporary exhaustion, the fibre loses its tone, and suffers a defect of irritability. A stimulus applied at this time, will not make it contract, unless it be very strong. After some time, the irritable principle will be again accumulated in the fibre, and it will then contract. It is only by degrees, however, that it recovers its irritability.

This, I venture to affirm, is a fact as new as it is important; and it explains a great number of phænomena hitherto inexplicable. The motion of the heart, the menstrual flux; the periodical motions of animals and plants, as well as their periodical diseases, are explained by it; that is, they are explicable only on this principle, that a stimulus, though always present, and continuing to act on the fibre, produces no sensible effect, till the irritability of the exhausted fibre is again accumulated. The total or irreparable exhaustion of the fibre consists in the loss of all its irritability, which
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is called gangrene. The fibre changes colour; becomes livid or black; becomes subject to the laws of unorganized matter; begins to decompose, and become putrid. A very strong stimulus will, by its action, reduce a fibre to this state in a short time. Such is, for instance, the state of the fibre killed by strong poisons, by the bite of the rattlesnake, &c.

The irritability of many insects, and of most plants, is irreparably spent by the stimulus of the venereal act; so that they die immediately after the work of generation is performed. The irritable fibre, from the first moment of its existence to its dissolution, being constantly surrounded by bodies which act on it, and on which it reacts, by its contraction; it follows, that during the whole period of life, the irritable fibre is in continual action; that life consists in action, and is not a passive state, as some authors have maintained.

Besides, external objects having no immediate action on the nerves, but acting on them, and producing different sensations only by the intervention of the irritable fibre; it is clear, that the ideas which we have of external objects are not agreeable to those objects, but

are changed and modified by the irritable fibre which transmits them to us. Hence objects appear different to us, according to the different states of that fibre. The irritable fibres in any individual, whether animals or plants, compose a system of fibres, the integral parts of which act continually on the whole, while the whole reacts on particular parts; so that any stimulus which acts on one fibre of the system, will deprive it of a part of its irritability; but that loss will soon be repaired by the system, and each fibre will furnish, in proportion, a part of its irritability to support the loss sustained by any single fibre. Thus, a weak stimulus, continually acting on a part of the system, such as slow poisons, the abuse of spirituous liquors, a hidden ulcer, &c. in time exhaust the whole system, and cause death.

For the same reason, a very strong stimulus, partially applied; such as, a distilled water of the *Laurocerasus*, Opium, the poison of the Rattlesnake, will instantaneously exhaust the irritability of the whole system, and kill the animal. By many experiments, I am certain, that the muscles of animals killed by such stimuli,

muli, are perfectly destitute of irritability. The irritable fibres of a system are not all possessed of the same degree of irritability: they have different capacities for the irritable principle, according to their distance from the heart. Fibres equally distant from the heart, have the same capacity; and a stimulus which affects one, affects all at the same time, and in the same manner: hence the sympathy of parts equally remote. When the irritable fibre has lost its tone, either from an excess or defect of the irritable principle, it is diseased; and the system it belongs to, suffers, and becomes diseased, by sympathy.

All the diseases, whether of animals or plants, may be referred to two classes: 1st, Diseases of accumulation, proceeding from the accumulation of the irritable principle, from the diminished action of habitual stimuli. 2^d, Diseases of exhaustion, proceeding from the defect of the irritable principle, by the increased action of habitual, or the addition of new stimuli. Medicines cure diseases, by acting on the irritable fibre, either by exhausting its irritability in cases of accumulation, or by diminishing the action of habitual stimuli, in cases

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of exhaustion. The effects of poisons are explicable in the same way. Poisons, medicines, and, in general, all surrounding bodies, act only on the irritable fibre; and therefore, affect the system exactly in the same manner. Fontana concludes, after having made six thousand experiments, that the poison of the viper kills animals by acting on the blood. But frogs, that live a long time after the heart is cut out, and which are consequently deprived entirely of blood, are killed as quickly by the poison of the viper as if their blood had not been let out.

Those stimuli, which I call habitual, because they are more or less in continual action on the irritable fibre, are heat, light, food, air, the circulation of the blood, the generative and the nervous stimulus. As long as the action of these stimuli is in proportion to the degree of irritability in the system, and as long as the sum of their action is nearly equal to the sum of the irritable principle absorbed by the lungs, and distributed by the circulation, the whole system will be in health,
and

and the fibres which constitute it will be in tone. When one of these stimuli, or several of them, act with greater force than ordinary, or when the fibre becomes more irritable, while the degree of their action is the same, the exhaustion of the system, and some one of the diseases which are the consequence of it, will follow. The abstraction of one or several of these stimuli, will produce an accumulation of irritability in the system; and some one of the diseases which are the consequence of this will follow.

If my principles be true, medicine, which has hitherto been an art of mere conjecture, will be brought, in time, to the certainty of calculation; and, after tables shall be constructed to express the force or intensity of the stimulus, the degree of irritability in the fibre, and the certain signs by which these may be known, the calculation will be so simple and easy, that it will make a part of education. Besides, the irritable fibre being the same throughout all organized nature, there will then be no distinction between medicine,

the veterinary art, and agriculture ; but these sciences will be confounded, and form only one, under the name of Universal Physiology. The art of pharmacy, and of writing prescriptions, will become useless. A bottle filled with alcohol, or liquid laudanum, will be substituted to the enormous quantity of drugs contained in the shops of the apothecaries. The traffic in medicines—But hold—By continuing my predictions, I shall expose myself to ridicule ; for, as Helvetius says, “ Every idea “ too remote from our ordinary views and manner of thinking, appears ridiculous. We “ never value any ideas but such as are consonant to our own, because self-love prompts “ us to admire ourselves in others.”

The

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The following letter from Mr Butt, of Bartlett's Buildings, London, dated London, 20th July 1790, and accompanied with some quantity of the Augustura Bark, has been sent to the Physicians of the Royal Infirmary and Public Dispensary of Edinburgh, and, we presume, to the Physicians of many other medical charities in Britain.

“ S I R,

“ Though the Bark which I take the
“ liberty of troubling you with a specimen of,
“ be not entirely new, and though it has al-
“ ready been published in different papers in
“ the London Medical Journal, yet it is not
“ generally known, and is far from possessing
“ that celebrity which it really deserves. It
“ wants the assistance of Gentlemen, who are
“ able, who are eminent, and who are solici-
“ tous to advance whatever may be found par-
“ ticularly

“ ticularly useful in medicine. I therefore
“ beg leave to introduce this Bark to your
“ notice. To the accounts given in the Me-
“ dical Journal it may be added, that this me-
“ dicine is found a specific in agues ; and that
“ it is, on the authority of Mr Bruce, who
“ has been applied to, the Brucea Antidyfen-
“ terica of Kew Gardens. I desire your in-
“ dulgence only to observe farther, that a
“ very large quantity of this medicine, not
“ less than 15,000 lb., has found its way into
“ this country, through the medium of Messrs
“ Bourdieu, Chollet, and Bourdieu. It is
“ really the produce of Africa, and so entered
“ at the Customhouse, but was consigned to
“ them from the West Indies. Another par-
“ cel of 1200 lb. was brought to Liver-
“ pool, immediately from Africa. Both par-
“ cels are in my possession ; and the account
“ given with each importation is, that this
“ Bark is found very superior to that of Peru
“ in the cure of fevers.

“ If you favour this medicine with your at-
“ tention, what you may want of it is very
“ much at your service. And that you may
“ be secure of having the same article, through
“ whatever

“ whatever channel it may suit you to pro-
 “ cure it, each parcel will be sealed up, and
 “ signed with the name of J. Butt.”

* * * *

A correspondent in London informs us, that Dr Pearson read a paper to the Society of Physicians, at their quarterly meeting on Wednesday October 28th 1789, in which he related experiments, made with the view of discovering the substances, and the proportion of the ingredients, in the celebrated Fever-Powder of the late Dr James. The composition and mixture of this medicine, shewn by the analysis, Dr Pearson found to agree in every particular with the synthetic experiments. And the preparation of James's Powder, was ascertained to be precisely the same with the Pulvis antimonialis of the Pharmacopœia of the London College.

Having shewn, by a full induction of facts, the identity of these two medicines, Dr Pearson
 gave

gave a history of the introduction of James's Powder into practice in England. He finds the prescription for it in Schroder, Ludovicus, Michaelis, Hartman, Potterius, and Frederic Hoffman ; and probably it was the invention of Basil Valentine. Baron Schawanberg, the person who sold the liquid shell, appears to have introduced in London the same medicine as the Fever-Powder of Dr James ; and Mr Lile, who had the receipt from Schawanberg, prepared this powder for fevers, which has ever since been made under the name of Lile's Powder. The same medicine is said also to be the Fever-Powder prepared by Baron Schawanberg's widow, and still sold by Mr Spiers, a druggist in Southampton-Street.

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In the fourth volume of the History of the Royal Society of Medicine of Paris, the following account is given of a new remedy which has been successfully employed against Vene-
real

real and other obstinate complaints, extracted from a letter written by M. le Chevalier d'Arbalestrier, Major de la Place de Mont-Dauphin, to M. Sabarot de la Verniere.

“ It is now three years since an American officer, a friend of mine, sent me a plant from Canada, very ill preserved, which was named La Cardinale bleue, or the Lobelia syphilitica. He had seen the savages employ it for the cure of Syphilis. The surgeon-major of the hospital of this place requested to accompany me, when I went out in search of it. In the Alps, about the same height with Canada, we found a plant, which had considerable resemblance to that sent me by my friend. It is a *Phyteuma*. The surgeon I have mentioned, has made trials of it with soldiers subjected to syphilis; and they have been radically cured by means of it in the space of three weeks. Warts, chancres, &c. have disappeared without the least operation.

“ This *Phyteuma* is then antivenereal; but it is, besides this, very efficacious in the treatment of chronical diseases which depend upon vitiated lymph. A woman in the neighbourhood,

hood, affected with a fistulous sore on her breast, with swelling of the axillary glands, was put upon the use of this *Phyteuma* for three weeks. She got rid of her complaint, and is at present in perfect health.

“ The fresh plant is given, for a dose, to the extent of three ounces in decoction. This produces a copious discharge by urine, even more than by stool. It produces the same effect as particular mineral waters. Patients are ordered the same regimen as in cases of lues. This ptisan has been given for the space of forty days; it has purged the patient three or four times a day, without diminishing the strength. All the symptoms in that case have disappeared, more than six months ago; and the person on whom this trial was made, is fat and fair. If future experience shall confirm the expectations I have formed, it must be acknowledged that this will be a discovery interesting to humanity. But the plant is a very rare one.”

The Society add, in a note subjoined to this extract from M. d'Arbalestrier's letter, That the information appears to them so interesting

as

as to deserve publication, that these researches may be followed out by others. Perhaps, we may add, that it is to be regretted, that no information is given respecting the particular species of the *Phyteuma* which was here employed for medical purposes. Of the numerous species referred to this genus by Linnaeus, one only, the *Phyteuma orbicularis*, or Horned rampions, is a native of Britain. But as this is not an Alpine plant, it is highly probable it was not the species here employed.

* * * *

In the same work from which we have extracted the above, there is also an extract of a letter from M. Bajon at Cayenne, to Mr D'Aubenton, in which we have an account of the Gout being cured by means of the commotion excited by the *Gymnotus*, or torporific eel.

“ I must inform you of a very singular fact, with regard to the torporific eel. An inhabitant

tant of this place, named Mr Brifaud, was, some years ago, attacked with a gouty pain in the right foot. It began always in the great toe, and then affected the whole foot to the heel, where it seemed to fix. After having remained some time in this foot, it passed to the left foot ; there it began also in the great toe, and passed in the same manner to the heel ; and after having remained for some time in this foot, it disappeared for some months. While this pain lasted, the foot was always a little swelled, particularly at the ankle, and he could not walk without great difficulty, and barefooted, because he could not put on either shoes or stockings.

“ Although he had for some time felt a return of his usual pain in the right foot, he yet resolved to go out a hunting in a canoe upon a river. He left a negro on shore with his dogs, to try to raise deer, or some other game, whose practice it is to throw themselves into the water, when they find they are pursued by dogs. Being impatient at having met with no game, Mr Brifaud resolved to land, though lame and suffering a great deal of pain in his foot, from the hopes that he would make the
dogs

dogs hunt better than the negro. He had scarcely landed, before he saw some wild hogs. To follow them, he was obliged to pass a small marsh, on which there was about a foot, or a foot and a half of water. In this he was struck by a torporific eel, which produced a very violent commotion in both knees. After a moment's reflection, however, he pursued his route; and his negro having taken a hog, he returned to his canoe by the same road. But before arriving there, he perceived that he walked with less uneasiness, and that he no more felt the pain of his foot.

When he had arrived at his house, he saw with surprise that the swelling had disappeared; that he walked with the utmost ease, and without feeling the least pain. He then tried to put on stockings and shoes: in this also he succeeded, and walked as if his foot had never been in the least affected. He then believed that the pain would follow its ordinary course, and that it would pass to his left foot. But the agility of this foot also, and the absence of pain, and of a slight swelling which usually preceded it, soon convinced him of his cure.

Some days afterwards, he recounted to me all these particulars: and more than eight months have now elapsed, without his having felt the smallest return of pain in his foot. I am very sensible, that, from a solitary case, no conclusions can be drawn. But may it not suggest a trial of electricity, in the cure of gouty complaints?

* * * *

The death of the justly celebrated Dr Benjamin Franklin, has perhaps called forth a greater number of high compliments, and distinguished honours to his memory, than were ever paid to any philosopher, at least of modern times. As a philosopher, to whom medicine stands deeply indebted, we should consider ourselves as highly culpable if we omitted mentioning him in this work, and that too in the most honourable terms. But without aiming at any thing original, on a subject already laboured by the most able pens, and with regard

gard to which we have no opportunities for particular information, we trust that it will be esteemed no unacceptable communication by many of our readers, to be presented with the following account of him, extracted from an eulogium pronounced by the Duke de Rochefoucault, before one of the most respectable Societies in Paris.

Benjamin Franklin, born at Boston in 1706, was placed at a very early age under one of his brothers, who was a printer, where he made a rapid progress in this art, so useful to mankind; and contracted an attachment for the press, which continued as long as he lived.

At Passy, so celebrated by being the place of his retreat, he frequently invited Messrs Didot, Pierres, and other distinguished artists of the capital, with whom he conversed on their profession, contributing to its improvement by that penetrating and inventive genius which he displayed in science and politics. This genius was the distinguishing character of the man we lament. Whatever engaged his attention, was considered by him under every point of view; and new ideas always re-

sulted from this examination. Scarcely emerged from infancy, the young Franklin, a journeyman printer, was a philosopher, without being conscious of it; and, by the continual exercise of his genius, prepared himself for those great discoveries, which in Science have associated his name with that of Newton, and for those political reflections which have placed him by the side of a Solon and a Lycurgus. Ill-treated by his brother, he left Boston, and procured employment, first in a printing-office at New York, and afterwards at Philadelphia, where he settled.

America was not then, what it is now. Agriculture, and a few of the ruder arts, almost exclusively occupied the unpolished people by whom it was inhabited. The religious fanaticism which had conducted thither the first English emigrants, left traces that sometimes disturbed its tranquillity, particularly in the Northern Provinces, and confined the education of the inhabitants to a narrow circle, of which Superstition was frequently the centre. Pennsylvania, however, whose legislator, though a fanatic, cherished liberty, was in this respect more happily situated for the reception
of

of improvement. Soon after his arrival at this place, Franklin, in concert with other young men, established a small club, where every member, after his work was over, and on holidays, brought his stock of ideas, which were submitted to discussion. This society, of which the young printer was the soul, has been the source of every useful establishment, calculated to promote the progress of Science, the mechanical arts, and particularly the improvement of human understanding.

A newspaper which issued from his press, was the mean he employed to draw the attention of his countrymen. There he anonymously hazarded proposals, at first loose, but afterwards more precise and definite. He set on foot subscriptions, which were the more readily filled, as every subscriber might consider himself the chief of an undertaking, the author of which was not named. It was in this manner that public libraries were founded; that houses of education, since grown up to celebrated colleges, arose. It was in this manner that the Philosophical Society of Philadelphia, no contemptible rival to those of Europe, was formed; that associations for ornamenting, clean-

ing, and lighting the streets of the town, and for preventing fires, were established; and that commercial societies, and even military corps for the defence of the country, were incorporated. Nothing was foreign to the genius of Franklin; and his name, which his modesty endeavoured to conceal, was always placed by his countrymen in the lists, and frequently at the head of those different bodies, who were almost all desirous of retaining him as their honorary chief; when higher employments called him from his country, which he was destined to serve more effectually as its agent in the metropolis of Britain.

He was sent to England in the year 1757. Celebrated for his astonishing discoveries respecting the nature, effects, and identity of thunder and electricity, and the means of guarding against its strokes, his fame had arrived before him. The letters by which he had announced these discoveries, had long remained unnoticed by the Royal Society of London; but they were at length read: and for some years all the learned of Europe had been informed, that in the New World existed
a philosopher

a philosopher who was worthy of their admiration.

The stamp act, by which the British Minister wished to familiarize the Americans to pay taxes to the mother country, revived that love of liberty which led thither their forefathers, at that time a desert. The colonies formed a Congress, the first idea of which had been communicated to them by Franklin, at the conferences at Albany in 1754. The war which was just terminated, and the exertions made by them to support it, had given them a conviction of their strength: They opposed this measure.

The Minister gave way, but preserved the means of renewing his attempts. Once cautioned, however, they remained on their guard. Liberty, cherished by their alarms, took deep root; a salutary fermentation agitated their minds, and prepared for the revolution, men, whose names it has rendered justly celebrated; Hancock, Samuel and John Adams, the sage Jefferson, Jay, Green, and the great Washington: and finally, the rapid circulation of newspapers, for the introduction of which they were indebted to the printer of Philadelphia,

phia, united them together to resist every fresh enterprize.

In the year 1766, this printer, called to the bar of the House of Commons, underwent that famous interrogatory which placed the name of Franklin as high in Politics, as it was before in Natural Philosophy. From that time he defended the cause of America with a firmness and moderation becoming a great man; pointing out to Ministry all the errors they had committed, and the consequences they would induce. Till the period when the tax on tea, meeting the same opposition as the stamp act had done, England blindly fancied herself capable of subjecting by force three millions of men, determined to be free, and at the distance of two thousand leagues.

Every man is acquainted with the particulars of that war; its fortunate result to the whole universe; the part taken in it by France, under a King, who, protector of the liberties of America, has since meritoriously obtained from the French nation the title of Restorer of the Liberty of his own Country; and the brilliant services of that youth, whose name, gloriously connected with that revolution, has
acquired

acquired fresh lustre in a revolution still greater.

But every man has not equally reflected on the bold attempt of Franklin as a legislator. Having asserted their independence, and placed themselves in the rank of nations, the different Colonies, now the United States, adopted each his own form of government; and, retaining almost universally their admiration of the British constitution, framed them on the same principles, variously modelled. Franklin alone, disengaging the political machine from these multiplied and admired counterpoises that rendered it so complicated, proposed the reducing it to the simplicity of a single legislative body. This grand idea startled the legislators of Pennsylvania; but the philosopher removed the fears of a considerable number, and at length determined them to the adoption of a principle which the National Assembly has made the basis of the French constitution.

Having given laws to his country, Franklin returned again to serve it in Europe; not by representations to the metropolis, or answers at the bar of the House of Commons, but by treaties with France, and successively with

with other powers, which, though governed by despots or monarchs, listened to the voice of the American speaking liberty.

Some years previous to this, I became acquainted with him, in a journey I made to London: and permit me, Gentlemen, to recal to my mind the happiness I felt, when, on his arrival at Paris, I conducted to his house M. Turgot, then Ex-Minister, and saw those two excellent men, both so deserving of the admiration and regret of mankind, embrace for the first time. Franklin, at least, completed a long career; but Turgot, taken from the world at the age of fifty-four, saw not his country made free. It was he who wrote under the portrait of Franklin that beautiful verse,

Eripuit fulmen cœlo, mox sceptrum tyrannis;

the last hæmastich of which was a prophecy that was speedily accomplished. The vicissitudes of fortune experienced by the Americans, sometimes gave considerable anxiety to their illustrious negociator; but his great mind, encouraged by the bravery of his countrymen, by the firmness of the Congress, and,
above

above all, by the genius, virtues, and talents of the immortal Washington, did not give way to fear. He did not, however, flatter himself, that peace would so soon finish the course of that happy revolution; and when I embraced him the day on which he signed the articles, "My friend," said he to me, with an air of perfect satisfaction, "could I have hoped, "at my age, to have enjoyed such a happiness!"

Whatever attractions an abode in France had for him; whatever pleasure he tasted in the society of those friends he had made; however great was the danger of so long a voyage, to a man of seventy-nine, tormented with the stone, it was necessary for him to revisit his country. He set off in 1785; and his return to America, now become free, was a triumph, of which antiquity can furnish us with no example. He lived five years after this period. For three years, he was President of the General Assembly of Pennsylvania. He was a member of the last Convention that established the new form of Fœderal Government; and his last public act, was a grand example for those who are employed in the legislation

gistration of our country. In this Convention, he differed, in some points, from the majority; but when the articles were ultimately decreed, he said to his colleagues, " We ought to have " but one opinion : the good of our country " requires that the resolution be unanimous : " and he signed.

His almost continual sufferings, for the two last years of his life, had altered neither his mind nor his disposition ; and, to the last moment, he retained the use of all his faculties. His will, which he made during his residence in France, and which has just been opened, begins in these words : " I Benjamin Franklin, Printer, now Plenipotentiary in France," &c. Thus dying, he did homage to the art of printing ; and the same sentiment induced him to instruct his grandson, Benjamin Beach, in this art ; who, proud of the lessons of his illustrious master, is now a printer in Philadelphia.

He never wrote a work of any great length : Almost every thing written by him, on subjects of natural philosophy, consists of letters to Mr Collinson, of the Royal Society of London, and to some other men of learning in Europe.

Europe. They have been translated into French by Mr Barbeau du Bourg ; but perhaps a new translation will be demanded. His political works, many of which are unknown in France, consist of letters, or short tracts : but all of them, even those of humour, bear the marks of his observing genius, and mild philosophy. He wrote many for that rank of people who have no opportunity for study, and whom it is of so much consequence to instruct ; and he was well skilled in reducing truths to useful maxims, easily retained, and sometimes to proverbs, or little tales ; the simple and natural graces of which, acquire a new value, when associated with the name of the author.

The most voluminous of his works, is the history of his own life, which he commenced for his son, and for the continuation of which we are indebted to the ardent sollicitations of M. le Veillard, one of his most intimate friends. It employed his leisure hours during the latter part of his life ; but the bad state of his health, and his severe pains, which gave him little respite, frequently interrupted his work ; and the two copies, one of which

was

was sent by him to London, to Dr Price and Mr Vaughan, and the other to M. le Veillard and me, reach no farther than 1757. He speaks of himself, as he would have done of another person; delineating his thoughts, his actions, and even his errors and faults: and he describes the unfolding of his genius and talents with the simplicity of a great man, who knows how to do justice to himself, and with the testimony of a clear conscience, void of reproach.

In fact, Gentlemen, the whole life of Franklin, his meditations, his labours, have all been directed to public utility; but the grand object he had in view, did not shut up his heart against private friendship: he loved his family and his friends; he was beneficent. The charms of his society were inexpressible: he spoke little, but he did not refuse to speak; and his conversation was always interesting, always instructive. In the midst of his great occupations for the liberty of his country, he had some physical experiment near him in his closet; and the Sciences, which he rather discovered than studied, afforded him a continual source of pleasure. His memoirs, Gentlemen,
will

will be published as soon as we receive from America what additions he may have made to the manuscript in our possession ; and we then intend to give a complete collection of his works.

His name will be celebrated among the different associations of politics and of literature. Innumerable eulogiums will be written or pronounced on him ; and you doubtless expect, with impatience, that of the virtuous orator, M. de Condorcet, organ of the Academy of Sciences, in which the most honourable praise will be bestowed, by him who best knows how to appreciate the worth of Franklin. The eulogium to which I allude, will forerun the award of history, which will place this illustrious name amongst the most eminent benefactors of his species ; which will trace the incidents of his life ; pourtray the anguish of his fellow-citizens, who believed, that in him they lost a father and a friend ; and which, after recounting the honours that America has consecrated to his memory, will also register in its kalendar the splendid homage which the National Assembly of France has paid to his memory, as an incident, equally honourable

able to the nation, which thus displayed its love of virtue; and to the man, who merited this mark of their attention.

To this splendid eulogium on the celebrated Franklin, we cannot pretend to make any additions. But, as a specimen of the manner in which Dr Franklin wrote, and in which he thought, we may conclude this account with an epitaph which he prepared for himself, when he was a printer at Boston, and which was intended to be put upon his tombstone. It was first published in a newspaper which he then conducted; and it has since been reprinted in various periodical publications.

THE BODY OF
BENJAMIN FRANKLIN, PRINTER,
LIKE THE COVER OF AN OLD BOOK,
ITS CONTENTS WORN OUT,
AND STRIPT OF ITS LETTERING AND GILDING,
LIES HERE FOOD FOR THE WORMS:
YET THE WORK SHALL NOT BE LOST;
FOR IT SHALL, AS HE BELIEVED, APPEAR ONCE MORE,
IN A NEW
AND MOST BEAUTIFUL EDITION,
CORRECTED AND REVISED
BY THE *AUTHOR.*

* * * *

In a former volume, we had occasion to mention the death of that eminent and amiable physician, Sir William Watson of London. The following account of him, will, we presume, not be unacceptable to our readers.

Sir William Watson was born in St John's Street, near Smithfield. His father was a reputable tradesman in that street, and died, leaving him very young. When he had attained a proper age, he was sent to Merchant Taylors' school; and from thence he was bound apprentice to Mr Richardson, apothecary, in 1730.

In his youth, he had a strong propensity to the study of natural history, and particularly to that of plants. This led him to make frequent excursions in the morning, several miles from London; so that he became early well acquainted with the loci natales of the indigenous plants of the environs of London; and

during his apprenticeship, he gained the honorary premium given annually by the Apothecaries Company to such young men as exhibit a superiority in the knowledge of plants, in those excursions made by the demonstrator of the Chelsea garden, and instituted for the purpose of initiating the apprentices of the Company in a science so necessary to the profession. This premium consisted of a handsomely bound copy of Ray's Synopsis, which was afterwards changed for Hudson's Flora Anglica.

In 1738, Mr Watson married, and set up in business for himself as an apothecary. His skill, his activity, and diligence in his profession, soon distinguished him among his acquaintance; as did his taste for natural history, and his general knowledge of philosophical subjects, among the members of the Royal Society, of which honourable body he was elected a member early in the year 1741, his two first communications being printed in the XLth Volume of the Philosophical Transactions.

Soon after his admission into the Royal Society, Mr Watson distinguished himself as
a bo-

a botanist; and it is but doing justice to his memory, to remark, that, even at this period, he may be considered as having, in no small degree, contributed to sustain and revive in England the study of that science; which, after the death of the two Sherrads, and the decline and retirement of Sir Hans Sloane, had begun to languish in this country; and he remained a zealous patron and encourager of it. Naturalists, from abroad, brought letters of recommendation to Mr Watson; and they ever met with those civilities from him, which entitled him to their esteem, and secured him the most honourable testimonies of respect in their writings. He shewed the utmost attention to Professor Kalm, when he was in London in 1748, by introducing him to the curious gardens, and accompanying him in several botanical excursions in the environs. The same civilities he manifested to the present eminent Dr Pallas of Petersburg, during his abode in England, from July 1761 to April 1762.

Mr Watson's earliest paper on the subject of botany, was an account of the celebrated Haller's *Enumeratio Stirpium Helvetiæ*,

extracted from the Latin, and illustrated with a conspectus of Haller's method, and with various observations. This was printed in the Philosophical Transactions, Vol. XLII.

In the same volume, and the succeeding one, he excited the attention of the curious in this way, by some critical remarks on the Reverend Mr Pickering's paper concerning the seeds of mushrooms, which that gentleman having seen a short time before, considered as a new discovery; whereas Mr Watson shewed that they had been demonstrated several years before, by M. Micheli, in his *Nova Plantarum Genera*. But, what attracted the attention of foreign botanists in particular, was his description of a rare and elegant species of fungus, called, from its form, *Geaster*. This was written in Latin, and accompanied with an engraving. In the same volume, also, he inserted some very instructing observations on the *Cicuta*, or common hemlock, occasioned by the death of two of the Dutch soldiers at Waltham-Abbey, which happened in consequence of their eating this herb instead of greens.

The

The death of two of the French prisoners in 1746, occasioned by their eating the roots of the Hemlock dropwort, produced from Mr Watson a paper, which, in an eminent manner, exemplified his skill in the knowledge of plants. It abounds with curious and critical observations on that plant and the *Cicuta virosa*, with which it had been frequently confounded, as both had also been mistaken for the Water parsnip. It is accompanied with an engraving of the plants by Mr Ehret. Some years after, in 1758, Mr Watson had occasion to confirm the fatal effects of the hemlock dropwort, by the death of a person at Havent in Hampshire, from having taken the juice of the root instead of that of the Water parsnip.

Besides these, Mr Watson published many curious and valuable papers in succeeding volumes of the Philosophical Transactions, and other periodical works; of which, the limits of our publication will not permit us to give any account. We may only observe, that these papers, which were principally on the subjects of Botany and Electricity, contributed not a

little to support and to extend his reputation, as an ingenious and industrious philosopher, both at home and abroad. And, among other particulars, he obtained much celebrity from an account of the first edition of the *Species Plantarum* of Linnæus, published in the *Gentleman's Magazine* for 1754, which drew from that celebrated naturalist a highly complimentary answer.

All who were acquainted with the extent of Mr Watson's knowledge in the practice of physic, in natural history, and experimental philosophy, were not surprised to see him rise to the higher line of his profession. This event took place in 1757, previous to which he had been chosen a member of the Royal Academy at Madrid; and he was created Doctor of Physic by the University of Halle, under a diploma, bearing date September 6th of that year. The same honour was conferred upon him by that of Wirtemberg. Soon after, he was disfranchised from the Company of Apothecaries, and became a licentiate of the College of Physicians in 1759.

This alteration in his circumstances and prospects, hazardous as it might appear to
some,

some, occasioned no diminution in his emoluments, but far the contrary. He had, before this time, removed from Aldersgate street to Lincoln's Inn Fields, where he lived the remainder of his days; and now found himself at greater liberty to pursue his studies, and carry on, at more leisure, the extensive correspondence in which he was engaged, both at home and abroad. He kept up a correspondence with Dr Huxham for many years. Among his correspondents abroad, we find the names of Peyssonnel, Clairaut, Bosc, the Abbés Nollet and Allamand; and several additional names may be seen in the letters communicated by him to the Royal Society.

In October 1762, Dr Watson was chosen one of the Physicians to the Foundling Hospital; which office he held during the remainder of his life. In 1784, he was chosen a Fellow of the Royal College of Physicians, and made one of the Elects. In 1786, Dr Watson had the honour of knighthood conferred upon him, being one of the body deputed by the College to congratulate his Majesty on his escape from assassination.

As Sir William Watson lived in intimacy with the most learned and illustrious Fellows of the Royal Society, so he himself was one of its most active members, and ever zealous in promoting the ends of that institution. For many years he was a Member of the Council; and, during the life of Sir John Pringle, was elected one of the Vice-Presidents; which honourable office he continued to fill during the remainder of his life. He was a most constant attender on the public meetings of the Society, and on the private associations of its members, especially on that formerly held every Thursday at the Mitre, and now at the Crown and Anchor Tavern in the Strand.

Notwithstanding the great fatigue to which Sir William Watson was subjected in his professional duty, and his laborious exertions in prosecuting his favourite objects, which were equally beneficial to mankind, and honourable to himself, he in general enjoyed a firm and sound state of health. It was sometimes interrupted by fits of the gout; but these seldom confined him to his house. In the year 1786, the decline of his health was very visible to his friends; his strength

was

was greatly diminished; and he had lost much of that vivacity which so strongly marked his character. He however continued his utility to the very verge of his grave; and died on the 10th of May 1787, in the perfect exercise of his senses, and in the full possession of that esteem and regard of his surviving friends, which were the natural result of his shining abilities, added to the uniform propriety of his conduct.

Few men have inherited from Nature more extensive talents than Sir William Watson, and few have made a better use of them. The wonderful strength and accuracy of his recollection; his intimate acquaintance with men, manners, and the objects of Science; and the penetrating attention which he bestowed on the scientific topics of the day, always enabled him, in a superior degree, to communicate entertaining information; while the easy, free, and engaging manner in which he conversed, rendered him a desirable associate in every society, and occasioned his company to be courted and frequented by all contemporary philosophers.

In

In the younger part of his life, he was noticed by those respectable characters, Sir Hans Sloane, Doctor Mead, Martin Folkes, Esq; and others of the same rank and eminence, who very early introduced him into the Royal Society; and, in the latter part of his life, he enjoyed the friendship of Lord Charles Cavendish, the Honourable Mr Cavendish, Doctors Heberden and Pitcairn, Sir John Pringle, Sir Joseph Banks, and Sir George Baker, all peculiarly distinguished in the philosophical world, and eminent for their ardent zeal in promoting the cause of Science and Literature.

On the continent, his connections were also extensive and respectable. He lived in the freest habits of communication with the most celebrated foreign literati, and maintained a regular correspondence with the ingenious philosophers and naturalists of every country where the Sciences were cultivated and held in estimation. Were proofs of this assertion necessary, there could be produced to the world, by his worthy son and representative, a very copious collection of letters, written to him by the greatest philosophers of his time, which are known to contain much matter of
curious

curious information, and which, if communicated, would be much more interesting than many of those insipid collections with which the time and pockets of the public are continually taxed.

As a physician, his humanity, assiduity, and caution were eminently conspicuous; and his exact observation of the duties of social politeness, must ever be remembered with pleasure by all those who enjoyed the happiness of his acquaintance. The smile of benignity was always displayed on his countenance; he invariably continued the general, the ready, and obliging friend of mankind; he was respectful to the elder and superior, encouraging to the younger, and pleasant and easy to all those with whom he had any intercourse. The same affability and good humour which adorned his character in public life, were preserved also in the bosom of his life, and endeared him to all those who were more immediately around him. He was scarcely ever out of temper; was always benignant and kind to his friends and relations whilst he lived, and equally so when he died, as he disposed, by will, of his large fortune, with that justice, judgment, and propriety,

propriety, which gave universal satisfaction to all who were concerned.

Sir William Watson had a natural activity both of mind and body, which never allowed him to be indolent in the slightest degree. He was a most exact œconomist of his time, and, throughout, an early riser; being up usually in Summer at six o'clock, and frequently sooner; and thus securing to himself daily two or three uninterrupted hours for study. In his younger days, those early hours were frequently given to the purposes of simpling; but in his riper years, they were devoted to study. He read much, and carefully; and his ardent and unremitting desire to be acquainted with the progress of all those sciences which were his objects, joined to a vigorous and retentive memory, enabled him to treasure up a vast stock of knowledge. What he thus acquired, he freely dispersed. His mode of conveying information was clear, forcible, and energetic, and justified the encomium bestowed upon him by a learned foreigner *, in a letter

* Mr Michel of Berlin——“ Watsonius botanicus et physicus est clarus et perspicax, homotidemque humanissimus.”

ter to a correspondent. His liberal and communicative disposition encouraged enquiry; and those who wished for information from him, seldom departed without it. In his epistolary correspondence, he was remarkably copious and precise; and such as enjoyed the privilege and pleasure of it, experienced, in his punctuality, another qualification which greatly enhanced its value.

* * * *

Among those men deservedly held in the highest esteem, of whom the medical world has been deprived since the publication of our last volume, we may mention the late Dr George Cleghorn of Dublin, who died on the 23d of December 1789. The account of this eminent and worthy Professor, which we here present to our readers, is chiefly taken from Memoirs of him, written by Dr Lettsome of London, whose zeal for the advancement of Medical Science, by the tribute of gratitude to the dead, as well as by honorary inducements calling forth the exertions of the living,

is no less conspicuous than it is laudable and exemplary.

Dr Cleghorn was born of reputable parents, at Granton, in the parish of Cramond, near Edinburgh, on the 18th of December 1716. His father died in 1719, and left a widow and five children. George, who was the youngest son, received the rudiments of his education in the grammar school of Cramond; and in the year 1728, he was sent to Edinburgh, to be farther instructed in the Latin, Greek, and French, where, to a singular proficiency in those languages, he added a considerable stock of mathematical knowledge.

In the beginning of the year 1731, he resolved to study physic and surgery, and had the happiness of being placed under the tuition of the late Dr Alexander Monro; a name that will be revered in the University of Edinburgh as long as Science shall be there cherished and cultivated.

This great Professor was esteemed by all, but most by those who were more immediately under his protection. It was the lot of young Cleghorn to live in his house; and in one
of

of his letters, his pupil appeared to dwell with peculiar pleasure on this circumstance, observing, that his amiable manners and unremitting activity in promoting the public welfare, endeared him to all his acquaintance, but more particularly to those who lived under his roof, and had daily opportunities of admiring the sweetness of his conversation, and the invariable benignity of his disposition.

For five years he continued to profit by the instruction and example of this excellent master, visiting patients in company with him, and assisting at the dissections in the anatomical theatre ; at the same time, he attended in their turn the lectures on botany, materia medica, chemistry, and the theory and practice of medicine ; and by extraordinary diligence, he attracted the notice of all his preceptors.

On Dr Fothergill's arrival from England at the University of Edinburgh, in the year 1733, Dr Cleghorn was introduced to his acquaintance, and soon became his inseparable companion. These twin pupils studied together the same branches of science under the same masters, with equal ardour and success. They frequently met to compare the notes they had collected from the Professors, and to communicate their respective observations.

observations. Their moments of relaxation, if that time can be called relaxation which is devoted to social studies, were spent in a select society of fellow-students, of which Fothergill, Russell, and Cuming were associates; a society since incorporated under the name of the Royal Medical Society of Edinburgh.

Early in the year 1736, when young Cleg-horn had scarcely entered into his twentieth year, so great had been his progress, and so high a character had he acquired, that, at the recommendation of Dr St Clair, he was appointed surgeon in the 22d regiment of foot, then stationed in Minorca, under the command of General St Clair. During a residence of thirteen years in that island, whatever time could be spared from attending the duties of his station, he employed either in investigating the nature of epidemic diseases, or in gratifying the passion he had early imbibed for anatomy, frequently dissecting human bodies, and those of apes, which he procured from Barbary, and comparing their structure with the descriptions of Galen and Vesalius. In these pursuits, he was much assisted by his correspondent Dr Fothergill, who, he acknowledges,

was

was indefatigable in searching the London shops for such books as he wanted, and in forwarding them by the best and earliest opportunities.

In 1749 he left Minorca, and came to Ireland with the 22d regiment; and in Autumn 1750 he went to London, where he passed that Winter, and attended the lectures of Dr Smellie and Dr William Hunter. During the same Winter also, he published the first edition of his Observations on the Diseases of Minorca, which were originally written in familiar letters, composed in very elegant classical Latin, addressed to Dr Fothergill. In the publication of this work, he was materially assisted by Dr Fothergill. Of this publication, the following eulogium has been pronounced by a competent judge: "It forms a just model
 " for the imitation of future medical writers:
 " It not only exhibits an accurate state of the
 " air, but a minute detail of the vegetable
 " productions of the island; and concludes
 " with medical observations important in every
 " point of view, and, in some instances, either
 " new, or applied in a manner which preceding practitioners had not admitted. It is a
 VOL. V. DEC. II. H h " modern

“ modern practice, for which we are indebted
“ to Dr Cleghorn, to recommend acescent ve-
“ getables in low, remittent, and putrid fevers,
“ and the early and copious exhibition of
“ bark, which had been interdicted, from mis-
“ taken facts deduced from false theories.”

In 1751, the Doctor settled in Dublin ; and in imitation of Monro and Hunter, began to give annual courses of anatomy. A few years after his coming to Dublin, he was admitted into the University as Lecturer in Anatomy. In the year 1784, the College of Physicians there elected him an honorary member ; and since that time, from Lecturer in Anatomy, he was made Professor ; and had likewise the honour of being one of the original members of the Irish Academy for promoting Arts and Sciences, which is now established by Royal authority. In 1777, when the Royal Medical Society was established at Paris, he was nominated a Fellow of it. In one of his epistles to Dr Cuming, he modestly concluded, “ My greatest
“ ambition is to be reputed a well-meaning
“ member of society, who wished to be useful
“ in his station, and who was always of opi-
“ nion,

"nion, that honesty is the best policy, and
 "that a good name is better than riches."

In another letter to the same friend, written
 in 1785, he says, "In the year 1772, in-
 "creasing business, and declining health, ob-
 "liged me to commit the chief care of my
 "annual anatomical course, for the instruction
 "of students in physic and surgery, to my fa-
 "vourite pupil Dr Purcell, who has not only
 "kept it up ever since, but improved it, so as
 "to advance its reputation and his own. Yet
 "I still continue to read a short course of
 "lectures, the design of which is to give to
 "general scholars a comprehensive view of
 "the animal kingdom, and to point out to
 "them the conduct of Nature in forming their
 "various tribes, and fitting their several or-
 "gans to their respective modes of life. This
 "affords me an opportunity of exciting in my
 "hearers an eager desire for anatomical know-
 "ledge, by shewing them a variety of elegant
 "preparations, and of raising their minds from
 "the creature to the Creator, whose power,
 "wisdom, and goodness is nowhere displayed
 "to greater advantage, than in the formation
 "of animals."

About 1774, on the death of his only brother in Scotland, he sent for his surviving family, consisting of a widow and nine children, and settled them in Dublin under his own eye, that he might have it more in his power to afford them that protection and assistance which they might stand in need of. His elder nephew, William, he educated in the medical profession; but after giving him the best education which Europe could afford, and getting him joined with himself in the lectureship, the Doctor's pleasing hopes were most unfortunately frustrated, by the young gentleman's death, which happened about 1784. This event was universally and sincerely regreted by all who knew him, on account of his uncommon abilities and most amiable disposition.

Dr Cleghorn, with an acquired independence, devoted his moments of leisure from the severer duties of his profession, to farming and horticulture.

*Parva feges fatis est. Satis est requiescere tecto;
Si licet et solito membra levare toro.*

But his attention to this employment, did not lessen his care of his relations, who, from
a grateful

a grateful affection, resulting from his exemplary conduct, looked up to him with filial duty, considering him not merely as a friend, but as a father.

* * * *

In the year 1784, the public were favoured with a volume, under the title of *Medical Communications*, published by some gentlemen in London distinguished for their abilities, who had formed themselves into a Society for promoting medical knowledge. A second volume, we are told, may soon be expected from the same Society; and if (which there is but little reason to doubt) this volume be equal to the former, it cannot fail of being highly acceptable to the public.

The Medical Society of London, instituted in the year 1773, to whom the public are already indebted for two volumes of *Memoirs*, have, we are told, made such progress in preparing a third, that it will soon be put to the press, and will, we hope, support that credit which they have already justly acquired.

H h 3

The

The System of Surgery, in six volumes, lately published by Mr Benjamin Bell, surgeon in Edinburgh, of which we gave some account in our volume of Commentaries for 1788, has met with such a favourable reception, that a very large impression of it is already sold off; and a second edition, which is now in the press, will soon appear.

Mr Bell has also been for some time engaged in preparing for publication another work, a Treatise on the Venereal Disease. This treatise is already in such forwardness, that it will soon be put to the press. It will be comprehended in two volumes; the first treating of Gonorrhœa, the second of Syphilis. And notwithstanding the numerous and valuable publications upon these subjects which have of late appeared, we have little doubt that it will be found well to merit the attention of medical practitioners.

In the year 1781, Dr Alexander Hamilton, Professor of Midwifery in the University of Edinburgh, published a very valuable work, under the title of A Treatise of Midwifery, comprehending the whole management of female

male complaints, and the treatment of children in early infancy ; to which are added, prescriptions for women and children, and directions for preparing variety of food and drinks adapted to the circumstances of lying-in women. Of this work an analysis was given in a former volume of these Commentaries, (Vol. VIII. Dec. I.) A new edition of that publication, with many alterations and additions by the learned and experienced author, is now in the press, and will probably be published in a short time.

A work was some time ago published at this place, under the title of *A System of Anatomy and Physiology*, from *Monro, Winflow, Innes, Hewson, Haller*, and the latest Authors; arranged, as nearly as the nature of the work would admit, in the order of the lectures delivered by the Professor of Anatomy in the University of Edinburgh. This work has already gone through two editions, and a third is now in the press. An ingenious and learned physician, who at present resides in Edinburgh, has, we are told, undertaken to superintend the publication of this third edi-

tion, and proposes, we hear, to improve the work by many important alterations and additions.

Mr Andrew Bell, Engraver to his Royal Highness the Prince of Wales for Scotland, whose intended System of Anatomical Plates we have already oftener than once had occasion to mention, has not yet been able to accomplish his intention of publishing his fourth part, containing plates of the skin, brain, &c. But he has by no means relinquished his plan. He has, however, been so much engaged in preparing plates for the new edition of the *Encyclopædia Britannica*, that he has made very little progress with his anatomical plates since last year.

* * * *

The subject proposed by the Harveian Society of Edinburgh, as their prize-question for the year 1789, was, An enquiry into the nature and properties of those medical products which are obtained from a combination of ardent spirits with acids? But no differtation,
of

of sufficient merit to deserve the prize, was transmitted to the Secretaries. Their prize-question for the year 1790, is, An experimental enquiry concerning the nature and properties of the *Nicotiana Tabaccum* of Linnæus; into the different active constituent parts of this vegetable, and their use in the cure of diseases? Dissertations must be transmitted, under the usual conditions, to Drs Duncan or Webster, the Secretaries, by the 1st of January 1791. Their prize-question of 1791, is, An experimental enquiry concerning the nature and properties of Camphor? Dissertations upon this subject must be transmitted to the Secretaries by the 1st of January 1792.

The Medical Society of London, besides the Fothergillian medal, which is given to the author of the best essay in answer to the questions proposed by the Society, annually bestow two silver medals; one on the author of the best essay read before the Society within the year, written by a Fellow; the second, for the best essay by any other person. Two silver medals were accordingly presented in the year 1788; one to Joshua Walker, M. D.
Physician

Physician to the General Infirmary at Leeds, and C. M. S. for his memoir on the *Atrophia lactantium*, an endemial disease, prevalent in and about Leeds in Yorkshire; the other to Mr John Sherwen of Enfield, Surgeon, and C. M. S. for his history of the Schirrho-Contracted Rectum, and memoirs on the effects of Emetic Tartar, and Arsenic by absorption.

The silver medals for the year 1789, were adjudged, one to Thomas Percival, M. D. of Manchester, for his papers containing experiments on the solvent powers of Camphor, and other miscellaneous communications; and Medical cautions and remarks, particularly relative to pulmonary disorders: the other to Mr Henry Fearon, surgeon, for his paper, intituled, Observations on Cancers.

The President and Council of the Royal Society of London, adjudged, for the year 1789, the medal on Sir Godfrey Copley's donation, to Mr William Morgan, for his two papers on the Values of Reversions and Survivorships, printed in the Philosophical Transactions.

The

The Royal Society of Medicine, of Paris, have proposed the following question, as the subject for a prize of six hundred livres.

Existe-t-il des inflammations lentes ou chroniques dans les sens, ou elles sont admises par Stohl, ou par quelques modernes? Si elles existent, quels en sont les symptômes, et quel en doit être le traitement?

Memoirs, competing for this prize, must be transmitted to M. Vicq. d'Azyr, Secretary to the Society, by the 1st of December 1790.

* * * *

About the end of December 1789, Dr William Cullen, after having taught medicine at Edinburgh for many years, with a degree of reputation, which not only did honour to himself, but also to the University of which he was a member, being now arrived at his seventy-seventh year, and finding himself unable, from age and infirmities, any longer to discharge the duties of his office, sent a letter to the Patrons of the University of Edinburgh,

burgh, resigning into their hands his Professorship of the Practice of Medicine.

On this event, Dr Cullen received many honourable testimonies of regard from different societies in Edinburgh, who had the best opportunities of being acquainted with his merit.

The Lord Provost, Magistrates, and Town-Council, presented him, in the name of the Community, with an elegant piece of silver-plate, on which was the following inscription :

GULIELMO CULLEN, M. D.
MEDICO REGIO APUD SCOTOS PRIMARIO,
PLURIMISQUE ALIIS TITULIS CLARO,
MULTIPLICIS DISCIPLINÆ MEDICÆ
PROFESSORI MERITISSIMO,
PER TOTAM TERRARUM ORBEM CELEBERRIMO,
SCHOLÆ MEDICÆ IN ACADEMIA EDINBURGENSI
PER ANNOS XXXIII. DECORI ET COLUMNI,
HANC PATERAM,
UT SUE ERGA ILLUM JAM EMERITUM EXISTIMATIONIS
ALIQUID SUPERESSET MONUMENTI,
CIVITAS EDINBURGENA GRATA
DONAVIT. M.DCC.XC.

At a general meeting of the pupils of Dr Cullen, resident in Edinburgh, held in the Hall of the Medical Society, it was unanimously resolved, that a subscription should be set on foot, for erecting some permanent monument of grateful respect to his memory, in the New College. And the four annual Presidents of the Royal Medical Society for the time being, together with Doctors Joseph Black, James Gregory, James Hamilton, Andrew Duncan, and Charles Stuart, from the College of Physicians; and Messrs Alexander Wood and Benjamin Bell, from the College of Surgeons of Edinburgh; were appointed a committee for receiving subscriptions, and superintending the execution of the work.

Addresses, expressive of the high sense they entertained of his abilities and services, were sent to him by the Senatus Academicus of the University of Edinburgh, by the Royal Medical Society, the Royal Physical Society, and many others. Without giving a detail of these at full length, which would lead to many repetitions, we shall here present our readers, by way of specimen, with the address of the American Physical Society, who may perhaps
be

be considered as less intimately connected with Edinburgh than most of the others, as consisting principally of gentlemen who are no longer British subjects.

TO WILLIAM CULLEN, M. D. Professor of the Practice of Physic in the University of Edinburgh, First Physician to his Majesty for Scotland, Fellow of the Royal College of Physicians of Edinburgh, and of the Royal Societies of London and Edinburgh, &c. &c.

S I R,

We the American Physical Society of Edinburgh, taught, from our earliest infancy, by the uniform example of your numerous pupils, who have always returned from this University impressed with more than a filial respect for your worth and merits, and who now fill many of the most important stations, both civil and medical, in different quarters of the globe, to venerate the illustrious name of Cullen; and now, convinced by our personal attendance on your highly instructive lectures, that your fame and abilities have been by no means

means exaggerated, beg leave, in the hour of your much lamented retirement and indisposition, to approach you with our sincerest condolence for the causes which have occasioned them.

Entire strangers to adulation, which would be equally disgustful to you, and degrading to ourselves, we cannot omit this opportunity of thanking Divine Providence, for having raised up, in our days, a genius, which, by its native acuteness and vigour, was admirably calculated for dissipating that perplexity, darkness, and error, which, at your entrance on life, overspread every department of Medicine, and cramped the ardour of men in the prosecution of it.

We must congratulate ourselves, and all the lovers of the healing art, that your life, which has been, with unremitting assiduity, devoted to the promotion of the interests of mankind, has been fortunately prolonged till you have completely emancipated the minds of the Medical world from the shackles of absurd theory; excited by your own example a boldness and freedom of investigation, unknown before; formed an indissoluble union between Philosophy

phy and Medicine ; and seen, with your own eyes, the happy fruits of your labours spread as wide as science and civilization extend.

Finally, we express our most cordial wishes, that the evening of your days may be crowned with as great an exemption from pain and languor, as an advanced state of life admits of ; and with all the tranquillity of mind, which a consciousness of diffusive benevolence to men, and active worth, inspires. We are, by order, and in name of the Society,

S I R,

With the highest respect and veneration,

Your most obedient humble Servants,

PETER WARD,

CHARLES BANKHEAD,

WILLIAM CUNINGHAM,

JOHN MUIR,

} Presidents.

American Physical Society's Hall,

Surgeons Square, Jan 13. 1790.

Dr Cullen did not long survive his resignation of the Professorship. He continued to linger, for some weeks, under the disease which incapacitated him from continuing the duties of his office ; and at last fell a victim to
it

it, on the 5th of February 1790, in the 77th year of his age.

The death of Dr Cullen was soon followed by that of his intimate and learned friend, Dr Adam Smith. Though Dr Smith was neither a medical practitioner, nor distinguished as a medical philosopher; and although his publications on the Theory of Moral Sentiments, and on the Wealth of Nations, which have extended his fame over all Europe, may be considered as in a line entirely different from the objects of our work, yet we may justly observe, that, by his death, Science in general, at Edinburgh, suffered an irreparable loss. He died in the month of July 1790, and in the 67th year of his age.

Dr James Baird, Senior Fellow of the Royal College of Physicians of Edinburgh, a worthy and amiable man, died in the Summer of the year 1790, in an advanced age.

Mr William Hamilton, Professor of Anatomy in the University of Glasgow, died in that city in Spring 1790. It is not many years

since Mr Hamilton was appointed to the Professorship, as successor to his father ; and his rising abilities gave his friends reason to entertain the most flattering expectations from his future exertions. But their sanguine hopes were blasted by his death, which happened at an early period of life.

Dr John Aitken, Fellow of the Royal College of Surgeons of Edinburgh, and well known to the medical world as the author of several works, particularly in surgery, and as an indefatigable teacher of Anatomy, Midwifery, and other branches of the healing art, died on the 22d of September 1790.

Dr Henry Cullen, Fellow of the Royal College of Physicians in Edinburgh, and Physician to the Royal Infirmary there, died on the 11th of October 1790. Dr Henry Cullen was the son of Dr William Cullen, whose death we have mentioned above, and was the only one of his numerous family who followed the profession of medicine.

Or

* * * *

On the resignation of Dr William Cullen, the Lord Provost, Magistrates, and Town Council of the city of Edinburgh, appointed Dr James Gregory to be Professor of the Practice of Medicine in the University, in the room of Dr Cullen; and they appointed Dr Andrew Duncan to be Professor of the Institutions, in the room of Dr Gregory. This new arrangement met with the entire approbation of Dr Cullen; and, indeed, the intentions of the Patrons of the University were well known to him, before his resignation was given in.

Dr Joseph Black, Professor of Chemistry in the University of Edinburgh, and present President of the Royal College of Physicians, has been appointed by the King, First Physician to his Majesty for Scotland; that office becoming vacant by the death of Dr William Cullen.

Mr James Towers has been appointed, by the Patrons of the University of Glasgow, to be Lecturer in Midwifery there. Mr Towers is

the first who has held this office, the appointment being a new one.

Dr James Jeffray has been appointed by the King, to be Professor of Anatomy in the University of Glasgow, that office being vacant by the death of Mr William Hamilton.

* * * *

During the year 1790, the following gentlemen have been admitted Members of the Royal Society of Edinburgh.

July 25. 1790.

HONORARY MEMBER:

His Excellency Baron Hertzberg, Minister for Foreign Affairs, &c. at Berlin.

ORDINARY MEMBERS:

Francis Garden, Esq; of Gardenston, one of the Senators of the College of Justice in Scotland.

William Farquharson, M. D., Edinburgh.

William Tait, Esq; Advocate, Edinburgh.

Non-

NON-RESIDENT MEMBERS:

Sir William Jones, Baronet, Calcutta.

Joseph Ewart, Esq; Minister Plenipotentiary
at Berlin.

Mr Hugh Cleghorn, Professor of Civil History,
St Andrews.

Jo. Ben. Jachman, M. D., of Koningberg in
Prussia.

M. de la Grange, of the Royal Academy of
Sciences, Berlin.

Chr. Girtanner, M. D., of Gottingen.

June 28. 1790.

NON-RESIDENTS:

Francis Kinloch, Esq; of Gilmerton.

Colonel Norman M'Leod, Esq; of M'Leod.

* * * *

Dr William Roxburgh, of Madras, and Dr
George Wilson, of Petersburg in Virginia,
have been elected Fellows of the Royal College
of Physicians in Edinburgh; the one on the
13th of February, the other on the 2d of
November 1790.

* * * *

Dr George Cleghorn, of whom we have already given some account, was appointed Anatomist to the College of Dublin in September 1753, on the resignation of Mr Wittingham. He was afterwards appointed to the Lecturership of Anatomy on the 14th of July 1761, in the room of Dr Robinson. And he was finally, in the year 1785, raised to the rank of Professor of Anatomy in that University, in consequence of an act of the Legislature for establishing a complete school of physic in Ireland. On his death, this last office, now including the two former ones, became vacant. This vacancy was declared in the public newspapers, as the act of Parliament directs; and the 16th of April last was appointed for the election of a new Professor. On that occasion, the Provost, and Board of Senior Fellows, in whom the power of election is vested, made choice of Dr James Cleghorn, nephew to the former Professor, who had for several years assisted his uncle, particularly in his private courses.

State

* * * *

State of the Thermometer, Barometer, and Rain, during the year 1789, according to observations made at the apartments of the Royal Society of London.

	THERMOMETER.			BAROMETER.			RAIN.
	High. Deg.	Low. Deg.	Med. Deg.	Highest Inches.	Lowest Inches.	Medium Inches.	Inches.
Jan.	53.0	17.5	35.7	30.75	28.58	29.27	1.345
Feb.	51.0	34	42.5	30.34	28.65	29.70	1.605
Mar.	46.5	26	36.6	30.13	28.94	29.72	1.549
April	62	29	47.2	30.18	29.10	29.77	0.957
May	66	45	56.9	30.27	29.57	29.88	1.103
June	72	50	58.5	30.23	29.40	29.84	3.244
July	71	52	61.9	30.09	29.54	29.85	2.467
Aug.	74.5	54	63.7	30.33	29.70	30.06	1.864
Sept.	74	45	57.3	30.38	29.30	29.88	2.155
Oct.	59	36	49.1	30.29	29.00	29.52	3.253
Nov.	55	28.5	41.0	30.46	28.72	29.70	1.244
Dec.	53	33	43.5	30.56	28.88	29.86	1.190
Whole Year. }			49.5			29.79	21.976

* * * *

State of the Thermometer, Barometer, and Rain, from the 1st of July 1789, to the 1st of July 1790, according to observations made about a mile from the city of Edinburgh.

	THERMOMETER.			BAROMETER.			RAIN.
	High.	Low.	Med.	Higheft.	Lowest.	Medium	
1789.							
July	75	53	66	29.75	29.3	29.48	2.63
Aug.	80	60	69	30.11	29.35	30.07	1.63
Sep.	69	52	63	29.91	29.1	29.55	2.04
Oct.	57	50	53	30.07	28.5	29.41	3.37
Nov.	52	38	45	30.2	28.67	29.52	5.23
Dec.	52	37	46	30.15	28.4	29.4	4.00
1790.							
Jan.	50	30	42	30.25	28.48	29.69	1.96
Feb.	54	38	47	30.12	29.4	29.77	1.75
Mar.	55	44	49	30.87	27.21	29.92	0.85
Apr.	55	38	46	30.25	29.25	29.04	2.53
May	61	42	54	30.21	29.1	29.68	2.49
June	73	51	60	30.02	29.1	29.67	2.9
For 12 months	80	30	53	30.37	27.21	29.6	31.38

In

* * * *

In our last volume we had occasion to observe, that the extraordinary dryness of the year 1788, had attracted, in a remarkable degree, the attention even of philosophers. The rain which fell that year at Edinburgh, as may be more particularly seen from examining our last volume, amounted only to a little more than twenty inches; while that at London did not arise to fifteen inches. But, at Edinburgh at least, in 1789, Nature has done more than repaid her debt; for although, in that year, the rain in London was somewhat less than twenty-two inches, what fell at Edinburgh amounted to very near thirty; and during the twelve months included between the 1st of July 1789, and 1st of July 1790, the quantity of rain, as appears from the preceding register, even exceeded thirty-one inches.

S E C T.

S E C T. IV.

List of New Books.

THE philosophy of natural history. By William Smellie, Member of the Antiquarian and Royal Societies of Edinburgh. 4to, Edinburgh.

Transactions of the Royal Society of Edinburgh. Vol. II. 4to, Edinburgh.

An inquiry into the small-pox, medical and political: Wherein a successful method of treating that disease is proposed; the cause of pits explained; and the method of their prevention pointed out. With an appendix, representing the present state of the small-pox.
By

By Robert Walker, M. D., Fellow of the Royal College of Surgeons, Edinburgh. 8vo, Edinburgh.

Elements of natural history and chemistry. By M. Fourcroy, Doctor of the Faculty of Medicine at Paris, of the Royal Academy of Sciences, &c. Translated from the Paris edition 1789, being the third, in 5 volumes 8vo; with an alphabetical, comparative view of the ancient and modern names of chemical substances. In 3 vols. 8vo, Edinburgh.

Elements of chemistry, in a new systematic order, containing all the modern discoveries; illustrated with thirteen copperplates. By M. Lavoisier, Member of the Academy of Sciences, &c. Translated from the French, by Robert Kerr, F. R. & A. S. S. Ed., Member of the Royal College of Surgeons, and Surgeon to the Orphan Hospital, Edinburgh. 8vo, Edinburgh.

Essay on the new method of bleaching, by means of oxygenated muriatic acid; with an account of the nature, preparation, and properties of that acid; and its application to several useful purposes in arts. From the French of M. Berthollet: With figures of all the necessary apparatus, and explanatory notes. By

Robert

Robert Kerr, F. R. & A. SS. Ed. &c. 12mo, Edinburgh.

The anatomy of the absorbing vessels of the human body. The second edition, considerably enlarged, and illustrated with additional plates. By William Cruikshank. 4to, London.

Hortus Kewensis ; or, A catalogue of the plants cultivated in the Royal Botanic Garden at Kew. By William Aiton, Gardener to his Majesty. In 3 vols. 8vo, London.

Medical inquiries and observations. To which is added, An appendix, containing observations on the duties of a physician, and the methods of improving medicine. By Benjamin Rush, M. D., Professor of Chemistry in the University of Pennsylvania. The second edition. 8vo, London.

A dissertation on the process of nature in filling up of cavities, healing of wounds, and restoring parts which have been destroyed, in the human body. Which obtained the prize-medal given by the Lyceum Medicum Londinense for the year 1789, and was ordered to be printed for the use of the Society. By

James

James Moore, Member of the Surgeons Company of London. 4to, London.

An account of the nature, properties, and medicinal uses of the mineral water at Nottingham, near Weymouth, Dorset. By J. Crane, Physician at Dorchester. With a view of its well in its present state. 8vo, London.

Speculations on the mode and appearances of impregnation in the human female, with an examination of the present theories on generation. By a Physician. 8vo, Edinburgh.

An account of the various systems of medicine, from the days of Hippocrates to the present time; collected from the best Latin, French, and English authors, particularly from the works of John Browne, M. D. By Francis Carter, M. D. 2 vols. 8vo, London.

A treatise on fevers; wherein their causes are exhibited in a new point of view; by a proper attention to which, their contagion (accruing from a contaminated air) will be prevented; and a variety of cases, as, putrid sore-throats, inflammations, fluxes, influenzas, consumptions,

consumptions, as well as low nervous fevers, that terribly affect the spirits, may be cured with ease. 8vo, London.

A treatise on the herb tobacco; pointing out its deleterious, pernicious quality, and its fatal effects upon the human constitution, by the great variety of disorders it occasions; not only affecting three of the five senses to a great degree, but impairing the faculties of the mind, and even frequently causing premature death. By a gentleman of Cambridge. 8vo, London.

A new compendious system on several diseases incident to cattle; wherein the disorders are orderly described, and the symptoms of each disease obviously laid down; together with a complete number of medicines for every stage and symptom thereof. There is also annexed, An essay on the diseases incident to calves, and their curative indications. In the course of this work, will be found several observations on the diseases peculiar to horses, and their proper method of treatment. By Thomas Topham. 8vo, London.

A tale of truth, addressed to Arthritics;
containing

containing a secure, cheap, and certain remedy for the gout. 8vo, London.

Medical essays: 1. An essay on the principles and manners of the medical profession. 2. An enquiry into the merits of solvents for the stone; with additions. 8vo, London.

An essay on the erisipelatous sore throat; to which is added, an account of a case of hemiplegia. By Thomas Reeve, surgeon, Botesdale. 8vo, London.

The first principles of chemistry. By William Nicholson. 8vo, London.

A descriptive catalogue of upwards of eleven hundred species and varieties of herbaceous or perennial plants, divided into six columns; exhibiting, at one view, the names, magnitude, soil and situation, time of flowering, colour of the flowers, and native country of each species. To which is added, A list of hardy ferns, for the decoration of northern borders, and the most ornamental annuals. By John Graefer, botanic gardener to the King of Naples. 8vo, London.

A new discovered fact, of a relative nature,
in

in the venereal poison. By Jesse Foot, surgeon. 8vo, London.

Philosophical Transactions of the Royal Society of London, Vol. LXXIX. Part II. 4to, London.

Transactions of the Irish Academy, Vol. II. 4to, Dublin.

Essays, medical, philosophical, and experimental. By T. Percival, M. D. F. R. S. &c. a new edition, enlarged and improved. 2 vols. 8vo, London.

A short account of the method of treating scrofula. By James Rymer. 8vo, London.

Observations on animal life, and apparent death. By J. Franks. 8vo, London.

Letter to Sir John Sinclair, on the virtues of the muriatic acid in putrid fevers. By Sir William Fordyce, M. D. 8vo, London.

Thoughts, physiological, pathological, and practical. By A. Swainston, M. D. 8vo, London.

Experiments on the Horley Green Spaw. By T. Garnet, M. D. 8vo, London.

Philosophical inquiry into the nature and properties of common water. By P. Lewis, M. D. 8vo, London.

Thoughts

Thoughts on the means of preserving the health of the poor. By the Rev. Sir W. Clerk, Bart. 8vo, London.

A plain and rational account of the effects of animal magnetism. 8vo, London.

Observations on gangrenes and mortifications. By C. White, F. R. S. 8vo, London.

A treatise on putrid, intestinal, remitting fevers; in which the laws of the Sol-Lunar influence being investigated and defined, are applied, to explain the nature of the various forms, crises, and other phænomena of these fevers. By Francis Balfour, M. D. 8vo, Edinburgh.

An inaugural dissertation on the phænomena, causes, and effects of fermentation, submitted to examination for the degree of Doctor of Medicine. 8vo, Philadelphia.

A dissertation on the mixed fever, delivered at a public examination for the degree of Bachelor in Medicine, at Cambridge in America. By William Pearson. 8vo, Boston.

A dissertation on the puerperal fever, delivered at a public examination for the degree of Bachelor in Medicine, at Cambridge in

America. By Peter de Sales la Terriere. 8vo, Boston.

Memoires de l'Academie Royale des Sciences, années 1786-87. 4to, Taurin.

Notice des insectes de la France réputés venimeux, tirée des écrits des Naturalistes, des Medecins, et de l'observation. Par M. Amoureux-fils, Docteur en Medecine de plusieurs Academies et Sociétés. 8vo, Paris.

Abrégé chronologique pour servir à l'histoire de la physique. Par M. de Loys. Tom. 3. 8vo, Strasbourg.

Memoire qui a remporté le prix en 1789, au jugement de la Soc. Roy. de Med. de Paris, sur la question proposée en ces termes: Determiner, par l'observations, quelles sont les maladies qui resultent des emanations des eaux stagnantes. Par M. Beaumés, M. D., &c. 8vo, Paris.

Apologie du jeune. 8vo, Paris.

Vœux d'un patriote sur la medecine. Par M. Thiery, Docteur-regent de la Faculté de Medecine. 8vo, Paris.

Adresse à Nosseigneurs de l'Assemblée Nationale sur la necessité et les moyens de perfectionner

fectionner l'enseignement de la medecine. Par M. Jadelot, Prof. de Med. 8vo, Paris.

Memoire qui à remporté le prix au jugement de l'Académie de Nancy, 8. Mai 1789. Par M. Bouffey, M. D. 8vo, Paris.

Lettre de M. Crell à M. de la Methrie sur un nouveau demi-metal. 8vo, Paris.

Sur le phosphore, dans lequel il est traité de sa combinaison avec le soufre. Par M. Pelletier. 8vo, Paris.

Sur un manière de décomposer l'eau en air inflammable, et en air vital. Par Messrs Van Troostwyk & Dieman. 8vo, Paris.

Des convulsions dans l'enfance, &c. Par M. Baumés, M. D., &c. 8vo, Paris.

Cours élémentaire de matière medicale, &c. Par M. Desbois de Rochefort, M. D. 2 tom. 8vo, Paris.

Phyikalisch-chemische versuche und beobachtungen, &c. ; *i. e.* Physico-chemical essays and observations. By Sig. Fred. Hermbstadt. 8vo, Berlin.

Ueber den bildungstrieb, &c. ; *i. e.* On the formative propensity. By Prof. J. F. Blumenbach. 8vo, Gottingen.

Beobachtungen uber die Harzgebirge, &c. ; *i. e.* Observations on the Harz mountains, with a petrographical chart. By G. Sigismund Otto Lasius, Member of several Academies. 8vo, Hanover.

R. Steidle versuche einiger specifischen mittel wieder den krebs, &c. ; *i. e.* Experiments on some specific remedies, against cancer, malignant ulcers, and convulsive colics ; with a remarkable description of an old, large, and very bad cancer in the breast, perfectly cured. By Raphael Steidle. 8vo, Vienna.

Anatomische tabellen fur lehrtenge der anatomie, &c. ; *i. e.* Anatomical tables for students of anatomy. By J. A. Kulmus. Improved with the addition of twenty-seven plates, by K. G. Kuhn, M. D., and Professor Extraordinary of Anatomy at Leipzig. 4to, Leipzig.

Antonii Laurentii de Jussieu, M. D. Paris. &c. Genera plantarum secundum ordines naturales disposita, juxta methodum in Horto Regio Parisiensi exaratam, anno 1774. 8vo, Parisiis.

Georg. Gustav. Detharding, Med. et Chir. Doct.,

Doct., &c. Commentatio chirurgico-obstetrica de utero inverso. 8vo, Rostoch.

Differtatio medica de natatione frigida, magno sanitatis præsidio. Auctore Val. Gul. Neubeck. 4to, Jenæ.

Regii instituti veterinarii Hafniensis, brevem historiam scripsit C. F. Abilgaard, M. D. et Artis Veterinariæ Professor. 8vo, Hauniæ.

Henrici Friderici Link, Hildesienfis, commentatio de analysi urinæ et origine calculi; in concertatione Civium Academiæ Georgiæ Augustæ, 4to Junii 1788, præmio à Rege M. Britanniæ Aug. constituto ab medicorum ordine ornata. 4to, Gottingæ.

Tentamen physiologicum de vasis lymphaticis. Auctore Renato Nicolao du Friche, des Genettes. 8vo, Monspellii.

De laude magnetismi sic dicti animalis ambigua, oratio habita sub auspiciis prorektoratus in Academia Georgia Augusta, die 2do Julii 1789, suscepti ab J. Andrea Murray. 4to, Gottingæ.

Georgii Christophori Siebold, Wirceburgensis, commentatio de effectibus opii in corpus animale sanum, respectu habito ad ejus analogiam cum vino; in concertatione Civium
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Academiae Georgiae Augustae, 4to Junii 1789, præmio à Rege M. Britanniae Aug. constituto ab medicorum ordine ornata. 4to, Gottingæ.

Differtatio inauguralis medica de febris phthi-
ficorum natura et curatione. Auctore Ant.
Frider. Gulielm. Hartel. 8vo, Gottingæ.

Toxicologia veterum, plantas venenatas ex-
hibens Theophrasti, &c. Auctore J. E. F.
Schulze. 4to, Hallæ.

De morbo venereo analecta quædam, &c.
Auctore Just. Arneman, M. D. 4to, Got-
tingæ.

Observationum medicarum et chirurgicarum
fasciculus. Ab O. Huhn, M. D. 8vo, Got-
tingæ.

Fasciculus tentaminum physico-medico-ele-
ctricorum. Auctore H. Groffer, M. D. 8vo,
Wurtzburg.

Selecta diarii nosocomii Regii Fridericiani
Hafniensis. Auctore F. L. Bang, M. D. et
P. 2 tom. 8vo, Haffniæ.

Entomologiæ Neapolitanæ specimen pri-
mum, &c. Auctore Domin. Cyrillo, M. D.
Folio, Naples.

Actuarium ad floram Pedemontanam, &c.
Folio, Taurin.

Ant. Canostrini, P. et M. D., historia de utero duplici. 8vo, Viennæ.

G. S. Dietrich, M. et C. D., observationes quædam rariores de calculis. 8vo, Hallæ.

Descriptio phrenitidis et paraphrenitidis monasterii. Auctore Fred. Saalmann, M. D. 8vo, Munster.

Tæniæ hydatigenæ in plexu choroideo inventæ historia. Auctore J. L. Fischer, Ph. et M. D. 8vo, Lipsiæ.

Differtatio medica inauguralis de febribus intermittentibus. Auctore Armando Joanne de Rossel. 8vo, Philadelphæ.

————— de pleuritide vera. Auctore Jacobo Proudfit. 8vo, Philadelphæ.

————— de febre nervosa et gangrena. Auctore Roberto Darbey. 8vo, Glasguæ.

————— de tetano. Auctore Joanne Muir. 8vo, Glasguæ.

DISSERTATIONES MEDICÆ INAUGURA-
LES, quas ex auctoritate Reverendi admodum
viri Gulielmi Robertson, S. S. T. P. Acade-
miæ Edinburgenæ Præfecti, nec non amplif-
simi Senatus Academicæ consensu et nobilif-
simæ Facultatis Medicæ decreto, pro Gradu
Doctōris summisque in Medicina honoribus
rite et legitime consequendis, Eruditorum ex-
amini subjecerunt, ad diem 24tum Junii 1790.

Carolus Bankhead, Hibernus, *De Hysteria.*

Henricus Bowles, Anglus, *De Febre Ty-
phoidea.*

Carolus Daly, Hibernus, *De Lumbricis.*

Gulielmus Dick, Hibernus, *De Asthmate.*

Thomas Evans, Hibernus, *De Febre.*

Ricardus Feild, Virginienſis, *De Menor-
rhagia.*

Joannes Gahagan, Hibernus, *De Inflam-
matione.*

Joannes Gibney, Hibernus, *De Æthere.*

Gulielmus Gibson, Scoto-Britannus, *De
Gonorrhœa.*

Jacobus Johnston, Hibernus, *De Gastritide.*

Martinus Lynch, A. M. Hibernus, *De
Scorbuto, &c.*

Joannes

Joannes M'Cully, Hibernus, *De Erysipelate.*

Robertus Mackintosh, ex Comitatu Moravienfi, *De Mercurio.*

Gulielmus Meade, Hibernus, *De Aquis Mineralibus.*

Carolus Scott, Anglus, *De Podagra.*

Georgius Spence, Jamaicensis, *De Vasis Absorbentibus.*

Annesley Streat, Hibernus, *De Cynanche Inflammatoria.*

Robertus Wood, Scotus, *De Pertussi.*

DISSERTATIONES MEDICÆ, ad diem
12mum Septembris 1790.

Gulielmus Alexander, Anglus, *De Opio.*

Alexander Purcell Anderson, Anglus, *De Acido Sulphurico.*

Joannes Dodsworth, Anglus, *De Fluxu Menstruali.*

Jacobus Fletcher, Hibernus, *De Dyspepsia.*

Gualterus Harkness, Scotus, *De Alimentorum Concoctione.*

Georgius Harries, Cambro-Britannus, *De Vermibus Intestinorum.*

Olivarius Hunter, Hibernus, *De Catarrho.*

Andreas

Andreas Ker, Hibernus, *De Asthmate Spasmodico.*

Lachlanus Maclean, Scotus, *De Hepatitide.*

Robertus Menzies, Scotus, *De Respiratione.*

Samuel Burton Pearson, Anglus, *De Vomitoriis.*

Gulielmus Robertson, Scotus, *De Hysteria.*

Joannes Starrat, Hibernus, *De Dysenteria.*

Thomas Wilson, Hibernus, *De Cynanche Maligna.*



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